

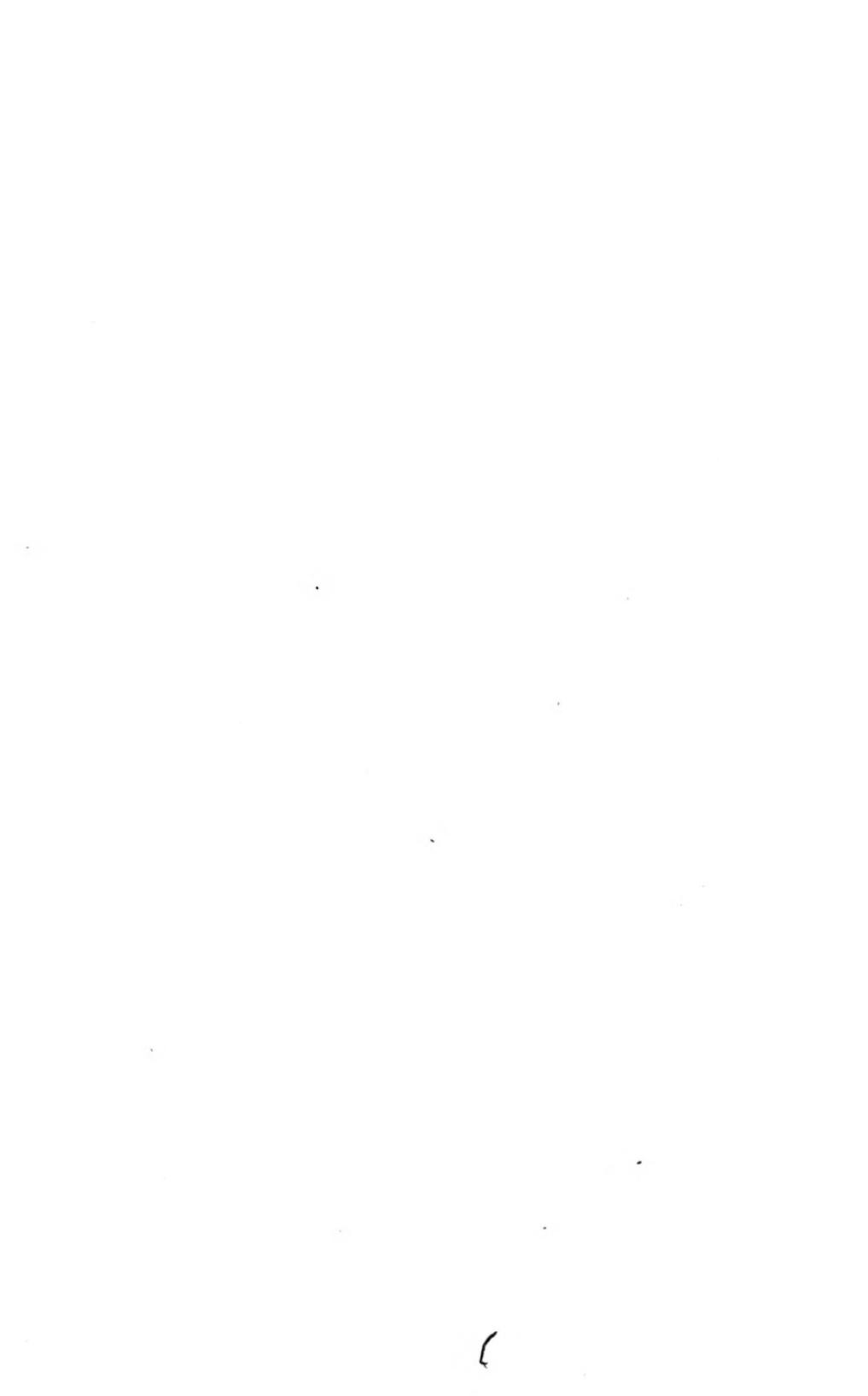
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REPORT

OF THE

CHIEF SIGNAL OFFICER ARMY OF THE POTOMAC,

PREVIOUS TO AND DURING THE

CAMPAIGN ON THE PENINSULA, VIRGINIA.

RENDERED TO

MAJOR GENERAL GEORGE B. McCLELLAN.

OCTOBER 21, 1862.

WASHINGTON, D. C.

1864.

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# REPORT.

OFFICE OF THE SIGNAL OFFICER,

WASHINGTON, D. C., October 21st, 1862.

## GENERAL:

The Chief Signal Officer, then serving at Headquarters Department of Virginia, was, by Special Orders, No. 26 (Paper A), directed to report for duty, at the Headquarters of the then Division of the Potomac, on August 14th, 1861.

This order was consequent upon information which had been received, that our forces, on the Upper Potomac, needed intercommunication between the different divisions; and, also, to the fact that attention had been called, at that part of our lines, and along our front before Washington, to the telegraphic field-signals of the enemy.

The General commanding the then Division of the Potomac, required a signal line to connect the right of his army with the forces surrounding Washington.

Orders to this effect, were received on the same day, verbally, from the General commanding the Army, and by the letter herewith, from the Assistant Secretary of War (Paper B.)

The organization of the Signal Corps of the Army of the Potomac, was commenced on the issue of the order herewith (Paper C.)

On this order, officers and men were collected from various regiments, and were gathered at small camps of instruction, which were formed at Poolesville, Md., then the headquarters of General Stone; on the top of Sugar Loaf Mountain in Maryland; and at Hagerstown, then the headquarters of General Banks.

These camps were respectively in charge of Lieutenants Theo. S. Dumont, 5th New York Vols., and Acting Signal Officer; Evan Thomas, 4th Artillery, U. S. A., and Acting Signal Officer; and

Leonard F. Hepburn, 4th New York Vols. and Acting Signal Officer: who, instructed and previously serving at Fortress Monroe, Va., had been ordered to aid in the formation of this party.

The course of instruction in signal duty, was commenced at the camps mentioned; while the officers there stationed, had communication by signal between them.

On the 31st of August, 1861, the Central Signal Camp of Instruction was established, at "Red Hill," Georgetown, D. C. (Papers D and E.)

The detachment of officers and men, detailed for signal duty, from the Pennsylvania Reserve Volunteer Corps, and on examination, approved for instruction, was the first received at the camp.

On the 12th of September, 1861, the approved officers and men of the detachment from the Upper Potomac, were here concentrated. The next day, the new camp was organized; the courses of instruction were decided upon, and the Central Signal Camp of Instruction in Georgetown, became the school for all the Acting Signal Officers in the Army.

For the successful management and control of this camp of instruction, much credit is due to the efficient co-operation of the then 1st Lieutenant Samuel T. Cushing, 2d Infantry, U. S. A., and Acting Signal officer: who, from the day of its formation, until it was abandoned, associated with the Chief Signal Officer, labored zealously and with perseverance, to fit the officers and men there under instruction to honorably bear their parts in the campaigns of the War, then just opening.

The organizing, instructing, disciplining, and retaining for service the Signal Corps of the Army of the Potomac (from which all other detachments of the Signal Corps in the U. S. have directly or indirectly sprung), was attended with many circumstances of interest, and many of difficulty. It was a work of no ordinary toil, to originate and to put in the field, in the time of such a war, a corps before unknown. There were duties to be performed in the face of prejudices which were childish; and in spite of oppositions born of ignorance. The narrative of these early days, and the recital of the modes in which, step by step, the Signal Corps won way, will form a part of a general report of the Chief Signal Officer.

At the Signal Camp of Instruction, the officers and men were

taught the manual of the signal apparatus; and they were practised to send messages, of any kind, and of any number of words, by telegraphic signals.

The apparatus used, is now well known to the General commanding. It is sufficient, therefore, to say that, by the motion of a single flag, attached to a staff, held and worked by the hands of one man, in the day; or, by the similar motions of a lighted torch, fastened to the staff instead of a flag, at night, a single man is converted into a semaphore, useful for any distances at which the signs made are visible, either with the naked eye, or with telescopes.

The officers are instructed in Countersign Signals, by which to distinguish friendly regiments; and in the employment of colored lights and rockets as signals.

They were habituated, by constant use, to the management of the telescope. They were taught the drill of the flagman. They learned to ride; and were instructed how to provide for themselves and their parties in the field. They were taught some duties of reconnoissance. They were fresh from civil life,—it was aimed to give them something of the feelings and habits of soldiers.

It was, from the beginning, the intention to place in charge of this Corps, the Flying or Field Electric Telegraphs, for use upon the field of battle; or, in the immediate presence of the enemy. These were to be similar, in their general construction, to those telegraphic trains, at a later day, brought into use on the Peninsula.

The efforts to procure these trains were thwarted, to some extent, by the action of persons who seemed to greatly desire that all the duties of electric telegraphy should be in the hands of civilians; and, in part, perhaps, by the hesitation of officers in authority to become responsible, by favoring it, for the success of what was then an experiment in our service. I did all I could to obtain authority and the means to properly fit such trains to accompany the army on the march. In the early days of the war, I could not obtain the asked permission to organize a party, nor to draw on the department for supplies. Later, when I submitted plans and further requests on this subject, they were either not answered, or received non-committal replies. Estimates, accompanying my Annual Report of November 10th, 1862 (Paper M), were not acted upon.

With embarrassments of this nature, the work could not be

successfully carried on. It was only when the army was fairly in the field, that the plans began to receive some favorable attention and some support (Papers B, F, G, H, I, K, L, M, N).

One train was, however, partially completed; and the officers of the Corps were familiarized with its use. This was the first movable telegraphic train of which there is record, as made for the United States Army.

#### COUNTERSIGN SIGNALS.

On October 17th, 1861, the order (No. 29, paper C), for the adoption of countersign signals, in the Army of the Potomac, was issued at the suggestion of the Chief Signal Officer. To acquire a thorough knowledge of the use of these signals, to procure and issue the necessary supplies, and to instruct the assigned officers, in the two hundred and fifty regiments and organizations, comprised in the Army of the Potomac, occupied much of the attention, and employed much of the time of the forming Corps, until late in December. The theory of these signals was good; the apparatus was convenient; the modes of making the signals were practicable. Experience has shown, however that, in a new army, these signals will not be safely used, unless an organized corps of signal officers accompany such an army. The failure of Congress to organize a Signal Corps during the session of 1861-2 led, on the recommendation of the Chief Signal Officer, to the suspension, in October, 1862, of the use of countersign signals in the Army of the Potomac. They were of practical use on some few occasions; and, it is probable, beneficially influenced the army insofar as by leading the men to presume that signals would always distinguish their enemies from their friends. They prevented the stampedes and panic-firings which, by their sad results had, early in the war, so moved the nation. I am of the opinion that, with the improving organization on of the Armies of the United States, this use, first tested in the Army of the Potomac, will be perfected and made general.

#### OUT-POST AND SCOUT-SIGNALS.

In December, 1861, the Chief Signal Officer was ordered to prepare a place for Out-post and Scout-signals; or signs by which troops upon out-posts, and with scouting parties, might recognise

friendly forces. These signals were, for some months, used along the lines in front of, and near Washington, and after the Army had taken the field, on the Peninsula. The very general use attempted to be made of them, in so great an army, was always of doubtful value. There was danger that troops widely separated, of different intelligence, and of different nations, could not be rightly instructed.

The proper employment of signals of this character is for especial occasions, and for especial troops. Their use (from the beginning neglected), was formally abandoned while the army was near the Chickahominy, in June, 1862.

Early in January, 1862, the force in the Signal Camp of Instruction, at Georgetown, D. C., was largely increased by a detail of three officers and six men, ordered from each brigade of the Army of the Potomac, which had not previously furnished its quota. Fifty per cent. of the officers thus ordered, failed to report.

#### THE ORIGIN OF THE SIGNAL CORPS OF THE ARMY.

The officers and men detailed for signal service, manifested interest in the study of their duties: and, as a corps, early obtained an advanced preparation. The character of their employment attracted much attention. Small signal parties had been left stationed at Poolesville; on Sugar Loaf Mountain; and at Seneca, Maryland. These points were in daily communication. The simplicity of the apparatus (with which the officers conversed); their power of communicating at distances of many miles, and in the night as well as in the day: the incomprehensible orders given by the officers to the flagmen: and the seemingly more incomprehensible evolutions with the flags and torches were, in and out of the army, subjects of ceaseless comment.

Like comment was elicited by the work of the officers, sent out to practice in the vicinity of Washington, and who were found, at all hours of the night, as well as the day, scattered about the country, miles from the camp, on towers, or on prominent heights, busily telegraphing, and with airs of sage importance and mystery, messages as lessons of practice. In the newspaper-history of the war, the Signal Camp of Instruction will be found to have a special mention.

The organization of the Signal Corps of the Army of the Potomac, then the Grand Army of the United States, became a fact of

general knowledge. As other armies were formed, or expeditions were prepared, skilled officers and men, sent from the parent camp, formed with these armies. With the officers and men, by them instructed, the different detachments of the Acting Signal Corps, which, serving in the various geographical departments, have carried the signal flag in so many fields in this war. The details for this purpose, from the Army of the Potomac, were as follows:

#### DETACHMENTS.

Early in the month of October, 1861, the expedition of the combined land and naval forces, afterwards styled the "Port Royal Expedition," was contemplated. On the application of General T. W. Sherman, commanding the expedition, the Chief Signal officer was ordered to detail signal officers to accompany it.

A party of seven signal officers, with fourteen men, equipped, commanded by Lieutenant E. J. Keenan, 11th P. R. V. C., acting signal officer, joined the expedition for duty, a few days before it sailed from Annapolis (Paper 2).

The brilliant success of this party, achieved by the gallantry and the labor of the officers and men accompanying it, contributed to the success of the expedition, and to the advancement of the Corps. The detachment of the Signal Corps, now serving in South Carolina, had hence its origin.

In December, 1861, an application was made by Major General Buell, then commanding the Department of the Ohio, for a detail of signal officers, to be sent to him. There was some vacillation about the movement of this party,—the order to send, and to retain it being, for a time, alternative. At last, however, a detachment of five officers and ten men, equipped, was sent to General Buell (Paper R).

The Signal party now commanded by Captain Jesse Merrill, 7th P. R. V. C. and acting signal officer, and serving with General Rosecrans, in the Department of the Cumberland, took its origin from this detail.

The difficulties encountered by this party, in the unfavorable character of the country: the situation and condition of the forces; the want of experience of the officers accompanying it; and the semi-official opposition of other officers, who knew nothing of its duties, have not been surpassed. That the Corps, throughout all

its difficulties, maintained its organization, and has attained the position it now holds, under General Rosecrans, has proved some intrinsic value in its duties; and, much merit in the officers who organized and composed it.

A few days before the sailing of the "Burnside Expedition" for North Carolina, there was received the application, made by General Burnside, for a signal party to be detailed to his army, and the order to make the detail. Three officers and six men equipped, and commanded by Lieutenant Joseph Fricke, 8th P. R. V. C., and acting signal officer, reported at Annapolis, to accompany this expedition (Paper S). A class of twenty-two officers, was there detailed, and its instruction commenced. At this time there was, in the hands of the Chief Signal Officer, to supply the whole Army of the United States, the sum of two hundred and eighty dollars and ninety-four cents [\$208.94] (Paper T).

Such scanty equipments as could be gathered, were hurried to this party, as it was embarking from Annapolis. It accompanied the expedition. Twenty-five officers with their men, were crowded in one small schooner. They were driven off the coast, in the gale which so severely damaged the Burnside fleet; and among their earliest experiences in the service, was that of a sea-voyage, of three weeks' duration, from Fortress Monroe to Hatteras.

Arriving, at last, at Hatteras, they were at once in action, at Roanoke Island. The care with which the usefulness of this party was developed, by General Burnside, was repaid by its services in every engagement in his department. It originated the present Signal Corps now in North Carolina.

On the 16th of March, 1862, after the return of the Army of the Potomac to Alexandria, following the evacuation of Manassas, two detachments, each of three officers and six men equipped, and supplied with extra stores, were ordered to report, the one in charge of Lieutenant J. B. Ludwick, 9th P. R. V. C. and acting signal officer, to Major General W. F. Halleck, then commanding the Department of the Mississippi, at St. Louis; the other, in charge of Lieutenant E. H. Russell, 9th P. R. V. C. and acting signal officer, to Major General B. F. Butler, commanding the Department of the Gulf (Paper U).

The party reporting to General Halleck formed, under the orders

of that officer, a class of twenty officers and forty men. This party was instructed, equipped, and prepared to take the field. A detachment from it, served at Fort St. Charles, White River.

At the time the whole party was reported for duty in the field, and for some weeks after, the Army of the Mississippi lay before Corinth. The country was unfavorable for their operations, and it was, perhaps, not contemplated that that army was to move; or that there might be service on the banks of the Mississippi and the incurrent rivers. The officers composing the party were ordered, by the General commanding, to rejoin their regiments; and the organization was thus, on the 30th of June, 1862, broken up. The operations of the Fall and Winter of 1862-3, have made it necessary to repeat the labor of the past Spring, and to instruct and form anew the party of the Mississippi Valley.

The detachment detailed for the Department of the Gulf reached, after many delays, the headquarters of General Butler, after the capture of New Orleans. A party was organized and instructed for service in this Department. It served successfully at the battle of Bayou-la-Fouché. It constitutes now a part of the Corps serving under General N. P. Banks.

From the date of the first order (paper C), in August, 1861, a party of eight officers and sixteen men, commanded by Lieutenant W. W. Rowley, 28th New York Vols. and acting signal officer, was left to serve with the forces under General Banks. During the Fall, and through the Winter, and until the advance of the forces of that General into the Valley of the Shenandoah, this party held stations of observation and communication on Maryland Heights, on the Heights at Point of Rocks, on Sugar Loaf Mountain, at Poolesville, Md.; and on the ridge at Seneca. (Paper V.) The labors, and the usefulness of this party, elicited the warmest thanks of the General under whom it served.

Early in February, 1862, a movement of the forces under General Hooker, on the lower Potomac, was contemplated. They were, it was said, to cross the river, for an advance upon the enemy. A detachment of eight officers and twenty-five men, equipped and mounted, commanded by Lieutenant B. F. Fisher, 3d P. R. V. C. and acting signal officer, reported to General Hooker for service in the expected engagement (paper W).

The enemy abandoned their batteries before an attack was made, and the river was crossed without opposition. The party rejoined the main Army of the Potomac in Alexandria, in April, and accompanied it to the Peninsula.

#### MOVEMENT OF THE CORPS TO ACCOMPANY THE ARMY.

In the early days of March, 1862, the improved condition of the roads indicating that a movement of the Army would be soon practicable, the Corps was mobilized, as shown in orders Nos. 20 and 22 (papers X and U), herewith. The organization was as indicated in papers V, Y, and Z.

At midnight, on the 9th of March, 1862, the order (paper A') of the General commanding the Army, directing the Corps to take the field, was received at the Signal Camp of Instruction. At 1 A. M., on the 10th of March, an order (paper B') was received, directing the field-telegraph trains to be on the Little River Turnpike, ready to move with the Commanding General at daylight. This train had not been completed, and was not ready for the field.

The camp was struck before daylight.

On the evening of the 10th of March, the different sections had either arrived at the points indicated in Special Orders No. 41 (C'), herewith, or were so near those positions, that the chiefs of sections had reported in person to the different Generals. One section alone was prevented, by impassable roads, from reporting before daylight, on the morning of the 11th. The headquarters of the Signal Corps were established on the night of the 10th, at Fairfax Court House, Va.

On the morning of the 11th, information was received, that the enemy had evacuated Manassas, and were rapidly falling back towards the Rappahannock. On the morning of the 12th, signal stations were established on the heights at Centerville, and among the ruins, yet smoking, at Manassas. The advance station, at Manassas, in charge of Lieutenant J. B. Ludwiek, 9th P. R. V. C. and acting signal officer, was some miles beyond our pickets, and with no guard. These stations were held, with some risk, and much labor, while the Army lay at Fairfax Court House.

An effort was made to connect Manassas Junction and Union Mills, by a line of signals. The attempt failed, because it was

found that to do so, would require more stations than officers could be spared to command.

In the reconnoissances made by the signal officers of our Army, there was found a station occupied by the signal officers of the rebel army before and at the time of the first battle of Manassas.

There is, perhaps, no country better formed by nature for the successful use of signal communication than on and near this battle-field. It was a subject of regretful remembrance, that the Army of the United States had not secured for it, on that field, such aid as signals might have given.

On March 14th, headquarters of the Army of the Potomac were established near Alexandria, Va. The detachments of the Signal Corps were quartered in that village.

#### BATTLE OF WINCHESTER.

While the army lay here, the report of the battle of Winchester, fought by Gen. Banks, in the Valley of the Shenandoah, was received. Mention of this battle is made in this report for the reason that the corps commanded by Gen. Banks was, at that time, a part of the Army of the Potomac, and that the Signal Corps serving with him was a part of that originally formed for that army. Stations were established in this action on the right, the left, and the centre of the line engaged; and also to the rear, communicating with the general commanding at Winchester.

The full reports of Lieut. Rowley, 28th New York Volunteers, and acting Signal Officer, and his officers, (papers Nos. 42, 43, and 44,) herewith, clearly define the positions taken by themselves on that field, and the services they rendered. Lieut. Rowley has especially mentioned, in his report, the names of Lieutenants David A. Taylor, 3d New York Artillery, and acting Signal Officer; S. D. Byram, 16th Indiana Volunteers, and A. S. O.; J. H. Spencer, 1st Minnesota Volunteers, and A. S. O.; J. H. Fralick, 34th New York Volunteers, and A. S. O.; F. N. Wicker, 28th New York Volunteers, and A. S. O.; I. J. Harvey, 2d P. R. V. C., and A. S. O.; B. N. Miner, 34th New York Volunteers, and A. S. O.; E. A. Briggs, 43d New York Volunteers, and A. S. O.; and E. L. Halsted, 40th New York Volunteers, and A. S. O., for their parts at this battle.

The letter of Gen. Shields (paper E) has reference to this battle. The officers and men of this detachment again elicited the official commendation of Gen. Banks, on the retreat from the Valley of the Shenandoah.

This Signal party, as was the case with that commanded by Lieut. Wilson, detailed to the corps commanded by Gen. McDowell, served with the army corps to which it was attached throughout the summer, and until, in September, the forces in front of Washington were consolidated in the Army of the Potomac for the defense of that city.

The last days of March were days of labor. The Signal Camp of Instruction was abandoned. The detachment of instructors (of which mention has been made) was formed, and ordered to the armies of Generals Halleck and Butler.

The office of the Signal Officer was, at the suggestion of Capt. Samuel T. Cushing, 2d Infantry U. S. A., and A. S. O., placed in charge of that officer, who well arranged and superintended its duties while the army went through the campaign of the Peninsula. The Signal Corps of the Army of the Potomac was partially organized. A detachment of officers and men was assigned to each Army Corps. The last equipments for the field and camp were completed; and the Corps was then ready to accompany any movement of the Grand Army.

Whatever time was else unemployed, was given to the vigorous practice, in signals, of those whose short experience, at the Camp of Instruction, had rendered this practice necessary. As the embarkation took place, at Alexandria, the Signal officers of each army corps were distributed among the vessels carrying those corps.

The aid they gave, in the regulating, by the rapid telegraphing of messages, the embarkation of the forces; the facility with which the movements of the loaded transports were, through them, directed; and the precision they were able to cause in the arrangements for the debarkation of the great bodies of troops, at the end of the voyage, were subjects of pleasing surprise, and of favorable comment, official and unofficial, among the numerous Generals, and other Officers, who were witnesses.

Especial mention was made, I am informed, by Major-General

Fitz John Porter, of the services rendered, on this voyage, by the Signal detachment, which, commanded by Lieutenant H. L. Johnson, 5th Connecticut Volunteers, and A. S. O., accompanied the forces under General Porter.

The detachment serving with General Heintzleman was so well appreciated, that a detail from it was sent back, by that General, from Fortress Monroe, to aid in the sailing of the divisions under General Hooker: which, then belonging to Heintzleman's corps, were to sail at a later date.

The Signal officers accompanying the corps commanded by General Keyes, on the voyage down the Potomac, were much employed. The Signal detachments commanded by Lieutenants N. Daniels, 3d Wisconsin Volunteers, and A. S. O., and F. Wilson, 5th P. R. V. C., and A. S. O., and assigned respectively to the corps commanded by Major-General Sumner and Major-General McDowell, did not accompany the movements of the Army of the Potomac at this time.

On March 31st, the headquarters of the Army of the Potomac, on board the steamer "Commodore," moved from Alexandria. A reserve party of seven officers, with their flagmen, accompanied them. The enlisted men of this party, the horses, stores, and wagons, with the extra stores for the Corps of the Army of the Potomac, were, on the same day, shipped on board a sailing vessel. On the evening of April 2d, the steamer "Commodore" arrived at Fortress Monroe, Va.

On April 3d, the headquarters of the Army of the Potomac were nominally stationed a mile north of Hampton, Va. But very few tents were pitched, however; and this camp could hardly, with propriety, be styled one.

During the movement down the river, it had been made known that a movement, of combined land and naval forces, against Yorktown, was intended. As soon as headquarters had moved from the steamer "Commodore," an interview was had with Commodore Goldsborough, then commanding the fleet near Fortress Monroe: and arrangements were made to send a detachment of Signal officers and men on board the flotilla, then under orders to sail for York river, under the command of Commodore Missroon.

On the next day, the army transport, with stores, etc., arrived.

A night of hard labor sufficed to discharge her; and early on the following morning, the reserve Signal detachment, fully equipped, with its stores and means of transportation, was ready for the field. A detachment of three officers and six men, commanded by Lieutenant J. W. DeFord, 11th P. R. V. C., and acting Signal Officer, was ordered to the fleet. A few hours' rest was given to men and horses, yet stiff from the voyage: and at sunset, on the 5th of April, the party moved towards the front. A rapid night-march, over roads crowded with immense trains of wagons, and through fields, to avoid obstacles else impassable, and part of a day's toil through deep mud, on narrow ways, incumbered with the impediments of a great army, brought the party, on the afternoon of April 6th, to the camping ground, near Dr. Power's house, of the first regular camping ground of headquarters of the Army of the Potomac, made on the Peninsula, in time to pitch its tents with the first there pitching.

The general advance of the Army of the Potomac had been made on April 4th. On that night, headquarters bivouacked at Big Bethel. On the following night, they occupied a few uncomfortable sheds of a rebel cantonment, near the now selected encampment.

In the general advance of the army, the army corps under General Keyes moved upon the James river side of the Peninsula; and after heavy skirmishing, touched the enemy's lines at Lee Mills, near the Warwick river.

The country into which the army corps moved, was almost unknown to our Generals: it was flat, and covered with dense forests. The low formation of the ground, and heavy rains, had made it swampy. Through this, roads, nearly impassable, led. On all the march, the detachment of the Signal Corps, serving with these forces, under Lieutenant B. F. Fisher, was on duty. There were no elevated points, whence general observation could be had; and the character of the country made signalling impossible. The duties of such temporary reconnoissances as were made by scouts, in such cases, devolved upon the Signal officers. They were among the first to follow the devious roads; to recognise the presence of the enemy; to study, with their telescopes, his strength and movements; and to hasten to report, as well as they could,

such facts as they were able to note, to the Generals with whom they served.

The advance of this column was checked near the line of the Warwick river; and General Keyes established his headquarters at Warwick Court House.

The column, under General Heintzleman, moving on the York side of the Peninsula, passed through a country difficult, indeed; but both more open and better drained than that penetrated by the forces under General Keyes. The division of Major-General Fitz John Porter constituted the advance of this column; and after minor encounters with the enemy, in which they precipitately fled, it came under fire, and was checked by the guns and works of Yorktown. The duties of Signal officers accompanying this column, were, as with the other wing of the army, those of exploration and reconnoissance.

General Heintzleman established his headquarters at the Saw Mill, near the head of Wormley Creek, on the Hampton road.

On the 6th of April, a number of our fleet appeared, in the bay, off Yorktown. A few exchanges of shots with the enemy's batteries bearing on the river front, convinced the naval commanders that, with wooden vessels, they could not pass between Yorktown and Gloucester; nor could they encounter, without disaster, the heavy metal and plunging fire of the enemy's guns. The fleet drew out of range, and anchored, in the roads, about three and half miles from Yorktown.

#### THE SIEGE OF YORKTOWN.

Our forces were in this position, when, in headquarters' camp No. 1, near Yorktown, it was first made known that the corps commanded by Major-General McDowell had been withdrawn from the Army of the Potomac. The hope, felt by many, that this corps was, in some way, to turn the enemy's defensive line, at Yorktown, fell. At the same time, reports were received of reconnoissances made along the lines in front. Earthworks seemed to be formed everywhere; and everywhere bodies of the enemy, vigilant, and of unknown numbers, resisted any threatened assault. There were heavy rains, and the mud grew deeper. A siege was

becoming inevitable. On the 10th of April, headquarters' camp moved to camp Winfield Scott, in front of Yorktown. At about this date, the army corps commanded by General Sumner, arrived. The Signal detachment commanded by Lieutenant N. Daniels, A. S. O., accompanied this corps.

In the bay, below Yorktown, at an estimated distance of from three to four miles from headquarters' camp, and in sight, lay the co-operating fleet: of which the United States ship "Wachusett" was flag-ship. From the shore of this bay, southerly, to nearly the banks of James river, the Army of the Potomac was stretched, buried in thick woods, and so hidden that rarely could more than a division be seen together; and often not more than a regiment was visible from any one point of view.

The rebel works reached through a light country, from the works of Yorktown proper, to near the navigable waters of the Warwick river. To pass from the right to the left of our lines, following the narrow and winding earth-roads, and the miles of corduroyed ways, through the woods, was a journey of several hours; during which, we came by surprise, as it were, upon regiments and brigades of soldiers, encamped here and there in the forests; and batteries of heavy field artillery, in position among trees and shrubs, and bearing, often, upon an enemy, whose lines and forces, hidden by other trees and shrubs, were invisible. Along all this line, there was the picket-firing of both musketry and artillery. On the right, between the works at Yorktown and the fleet below, desultory shots, of enormous weight, were thrown to and fro, from rifled ordnance and 11-inch guns. On land, along the front, if a venturesome picket, or curious signal-man, of either army, showed himself within gunshot, or climbed a tree for observation, he was fired at as game. If a group was gathered together anywhere, it was customary to disperse it with a shell from a rifle gun. The appearance of an officer, with a telescope, or with any instrument of reconnoissance, rarely failed to elicit this attention. On the left, the rebel gunboat "Teaser" would now and then creep up the Warwick, from the James river, and try the ranges of her heavy guns upon the points where her commander supposed our camps might be. With the exception made by the opening of the trenches, and the placing of our siege batteries, (only one of which

ever opened fire) this state of affairs was without change throughout the siege. There were some skirmishes, occasionally artillery duels, and the affair of the "Burned Chimneys," or Lee's Mills.

Scattered along this advanced line, were the stations of the Signal officers; and their duties brought them, every day, upon and near it. It thus happened to them, serving in their turns in front, that so many of this number came to be, at different times during the siege, exposed to the enemy's sharpshooters; or, what was by far more common, to the fire of his artillery. Wherever stations were known, or supposed to be, the enemy, day after day, directed practice shots: either with guns from their batteries, or, as it once or twice happened, with lighter pieces, brought for the purpose.

In the list of officers, whose names I had the honor to lay before the General commanding, in my report of June 26, 1862, a copy of which is herewith, (sub-report No. 1) there is, I believe, no one who was not, at some time during the siege, exposed, and near the enemy. The courage and persistence with which some of these officers held the posts to which they were ordered, though in danger day and night, for weeks together, was worthy of commendation.

With the army thus located, the Chief Signal Officer early found cause for regret, that official indifference had prevented the construction of the field-telegraph trains, with which it was at first intended to equip the Signal Corps.

With trains of the character of those now in use with the Army of the Potomac, it would have been easy to have connected, in one day after their arrival, before Yorktown, the principal headquarters of the army. The insulated wire would be even safer running through the woodland, than when extended by the side of roads. There were no field-telegraph trains with the army.

On the 7th of April, in obedience to an order of the General commanding, telegraphic communication, by signals, had been opened with the fleet, the detachments of Signal officers, ordered at Fortress Monroe, having on that day joined it. The shore station, known as the headquarters' station (No. 1), was at a barn, near camp Winfield Scott. From this day, until the close of the siege, there was, by day and night, a transfer of messages to and

from the flag-ship of the fleet, a constant watch observed, at once, of the signals made by either those afloat or on shore. The letters of Commodores Missroon and Smith, (paper F and G) herewith, have reference to the usefulness of this station.

In dense fogs; in rain; and sometimes, when the flag-ship, moving down the river, was shut out from view, this communication failed. To provide for these contingencies, another station (No. 7) was opened, at a house upon the shore of the bay, at the boat landing of the fleet. This station was to send messages which could not be sent direct from the headquarters' station. It was sometimes used for conferences and conversation, by signals, between the naval officers on the fleet, and the officers of the army on shore. It was, likewise, in communication, when necessary, with headquarters' station; and with the fleet.

A station (No. 6) was, at different times, in the progress of the siege, established at the Farenholt House, at the mouth of Wormley Creek. It was intended to communicate, by signals, to the fleet, in any sudden danger that might arise at this point; and to transmit, to the headquarters' station, the knowledge gained, from observations made here. This station was little used.

When, on the 30th of April, the siege battery of 100- and 200-pounder Parrott guns, which had been established at this place, opened upon the works at Yorktown and Gloucester. Signal officers, at this station, were communicating with others, placed at Moore's house, near Yorktown; who thence reported the effect of the shots, in so far as they were able to note them. The Signal officers at the battery were, of course, exposed to the shots with which the enemy replied to the battery near which they were stationed. The signals were not permitted to be interrupted.

The Signal officers at Moore's house were directly in the line of both fires—the shells from the combatants passing high in the air, over their heads. This position, though one of little danger, was not desirable—some of the large shells falling short, and exploding near it.

A Signal station (No. 5), connecting with the fleet, had been opened at Moore's house, on April 7th. This point was chosen with a view to directing the fire of our naval guns, in the attack on Yorktown, then thought to be impending; and, also, for the

purpose of momentarily informing the fleet of the progress of our land forces, whose assault was to be simultaneous.

Moore's House, located on the bank of the York river, was directly under the heaviest guns of Yorktown, a mile distant. The beach, at the foot of the bank, on which the house was placed, was commanded by the water-battery, on the beach, at Yorktown. Trees, clustering along the top and water-edge of the bank, and reaching from near the enemy's works nearly to this house, offered a cover for rebel sharpshooters. This station was first visited, and long messages sent from it to the fleet, by a party of the Corps, on the third day after the army arrived before Yorktown, and while the place was yet some distance beyond our pickets. As a station of observation and communication, this point was unrivalled. From it, one looked down, upon the works at Gloucester and their approaches, about two miles distant: upon the wharves and water-batteries of Yorktown, and the whole channel of the river and the bay, spread out in view. Indeed, there could be traced the outline of the works at Yorktown proper; and there was had in view much of the open country between those works and our lines. This place was now permanently occupied as a Signal station, communicating with the station at headquarters. When the signal flag was first discovered by the enemy, near this house, two light field-pieces were run up by them, in easy range; and the officers were driven from their stations by their fire; but only to return, as soon as the fire ceased. As the siege advanced, the fire, on this station, became more serious. Lieutenant Israel Thickstun, 83d Pennsylvania Volunteers, and A. S. O., was stricken senseless by a fragment of a shell, while serving on it. The shells were very frequently exploding near it—the station receiving many of the shots aimed at our parallel in front of it. The working was not reasonably tenable. The officers were instructed to shelter themselves near Moore's house; and to make report, by signals, only in case of emergency. The station was thus held until the evacuation of Yorktown. Its occupation was of the most use in the early days of the investment—when there were fears of a possible sortie of the enemy in that direction.

A station of observation (No. 4), was established in a point of woods, south of Yorktown, at the junction of the Hampton and

Warwick roads. This station was a mile from the works at Yorktown, and yet nearer the enemy's work known as the Red Redoubt. Communications hence, by signals, were sent to a signal station (No. 2) placed on the Saw Mill, at General Heintzleman's headquarters; and were thence reported to headquarters' station. Another station of observation (No. 3), in like manner repeating its messages through station No. 2, at General Heintzleman's headquarters, was established on the Warwick road, in a piece of woods, north of the cleared land in front of Lee's Mills, and near a small lunette, afterwards taken by our forces. The post of observation of the officers here placed, extended through a piece of woods, southerly, to the open ground in front of Wymans' Mills.

The position of these stations was easily discovered by the enemy. They were held through the siege, with much risk to the officers ordered upon them. It was necessary to keep the officers there posted on duty for several days in succession: so that they might well know the localities of the enemy. The stations were hidden\* from the view of the rebel gunners. The danger was of injury from fragments of the many shells thrown at the position during the thirty days they were occupied. A signal flag was displayed, in a tree, in sight of the enemy, at station No. 3. The attempt to remove it was made hazardous by the enemy's musketry.

These completed the line of stations on the right. The dense woods covering the centre and left of the army, rendered signalling there impossible, except from artificial stations. Soon after the siege had commenced, the Chief Signal Officer was directed, by the General commanding, to cause signal towers to be erected, and to be occupied as stations of observation and for communication, (if that was possible,) along the front. It was hoped, also, that, by observing, from such points of view, and reporting the ranges of the shot and shell, the fire of guns and mortars, soon to open on Yorktown, might be accurately directed. These instructions were communicated to Lieutenant B. F. Fisher, A. S. O., commanding the signal detachment on the left of the army, and Lieutenant N. Daniels, A. S. O., commanding that with the centre.

The sites for the towers, on these portions of the lines, were at

once selected by these officers; large working parties reported to them; and the work of construction commenced. On the right of the line, also, the positions for these towers were selected; and the timber for their construction was drawn from the woods, and sharpened. Of these towers, one (H) was to be on the shore of the bay, near Farenholt's house; a second (F) was to be on the high bank, near the dam crossing Wormley's Creek; the third (G), on the elevated plain near the Clark House, and near Camp Winfield Scott. None of these were, however, completed when the evacuation of Yorktown took place.

A station had been built close to Camp Winfield Scott, in an immense tree. This was sometimes used for purposes of observation. Other stations, on perches, were now made in trees, close to the trenches and batteries of our approaches. From one of these, near Moore's house, and at a height of about eighty feet from the ground, could be had a distinct and close view of the enemy's works at Yorktown.

At the centre, Lieutenant Daniels, A. S. O., caused to be raised a lofty structure of logs (tower E), near our picket line, in front of Lee's Mills, and overlooking far the enemy's works there placed. This tower was constantly occupied, by a detail of signal officers, as a station of observation; and whatever facts could thence be noted, were reported to General Sumner. It was often visited by other officers, whose duties were aided by the observations here made. This structure was in close range of the enemy's guns. Though partially hidden by trees, it might have been demolished by them. They hesitated, however, to fire upon it; curious, as I have since been informed, to learn for what it was intended. Along the left of the lines, the parties commanded by Lieutenant B. F. Fisher, A. S. O., erected four tower stations. (Towers A, B, C, and D.) These stations were occupied, and communicated with each other by signals. The positions commanded views of parts of the enemy's lines. The reports hence made were sent to general headquarters. The enemy brought a light gun to bear upon one of these towers, and sometimes fired upon it; but they were neither able to seriously disturb its occupants, nor to interrupt their labors. With this enumeration, have been mentioned all the permanent stations established during the siege.

The duties of reconnaissance and communication, performed by the officers of the Signal Corps, when not occupying these stations, have been before referred to. There is further reference in the sub-reports, herewith (1, 13, 15, 22, 26, 31, 41, 46, 12). There was no day during the siege, but that they could be found in front of the enemy's lines, closely watching his works; and there was, in consequence, no day on which some of them were not exposed to the dangers of this position. Of the character of the reports made and messages sent, by these officers, the General commanding had knowledge at the time.

On the 16th of April, 1862, occurred the affair of the "Burnt Chimneys," or Lee's Mills. Mention has already been made, by name, of the officers particularly engaged at this place. (Sub-reports 1, 22, 36, 31, 40, make reference to it.) The messages sent by them, were sent at very short distances; and I have no reliable information as to their importance. They were useful, perhaps, in conveying intelligence which might, if otherwise sent, have necessitated the exposure of other officers. The observations reported by some of the officers, were made from tops of trees they had climbed for that purpose.

In the last days of April, the division commanded by General Franklin arrived, on transports, at Shipping Point. These troops were kept on shipboard for several days; as it was supposed they were to be moved against the enemy at Gloucester. A detachment of five officers and twelve men, commanded by Lieutenant D. E. Castle, 19th Indiana Volunteers, and A. S. O., was assigned to duty with these forces, and reported to General Franklin, whose headquarters were then on shipboard.

#### EVACUATION OF YORKTOWN.

By the first days of May, our approaches were nearly completed, the siege and mortar batteries were in position, and the day was reported fixed, on which they were to open fire.

Lieutenant Neel states in his report, herewith, (sub-report No. 22,) that two days previous to the evacuation of Yorktown and the main line of works—that is, on the morning of May 2, 1862—Lieutenant Herzog and himself reported to General Smith, com-

manding near Lee's Mills, the evacuation of the enemy's main work, at that place. I am not informed that this message was sent to general headquarters.

On the night of May 2, the unusual silence of the enemy so attracted the attention of the General commanding, that, in a message ordered to the fleet that night, he mentioned that this silence might indicate an evacuation or sortie; and asked that a gunboat be sent to draw the enemy's fire. The gunboat "Marble Head" moved up the river, near the batteries; and firing upon them, drew a number of shots in reply. (Sub-report, No. 30.)

On the morning of the 3d of May, a signal message was received from Lieutenant A. B. Jerome, 1st New Jersey Volunteers, and A. S. O., (on station No. 3, near Wyman's Mills,) that the enemy were destroying their barracks. This was not supposed to have particular bearing upon an evacuation.

On the same afternoon, the enemy's fire opened, as usual, about sundown; and increased in rapidity after nightfall, until at midnight the roar of artillery was almost incessant. Shot and shell were thrown in all directions, as though fired at random; and with ranges which had rarely been reached before.

Signals, with torches, at station No. 2, were prohibited by the General commanding, for fear of drawing the enemy's fire. The signals made from stations at the front (Nos. 3 and 4), were therefore not answered; and no messages were received. About midnight a conflagration was observed in Yorktown. About 2 A. M. on the 4th, the firing ceased; and between that time and daylight our troops entered the works.

Soon after daylight, a message was received from Moore's house, announcing, "Our flag flies over Yorktown!"

The claim is made, by signal officers stationed at the towers, on the centre and left of our lines, that the first positive information of the evacuation of the works in front of them, was given by them to Generals Sumner and Keyes; with whom they were respectively serving. The report is stated to have been made from the tower near Wyman's Mills, at 4:30 A. M.; and from the tower in front of General Keyes at daylight. The reports of these officers (sub-reports 22, 26), are herewith.

On both the centre and the left, signal officers went into the

works with the first troops that occupied them; and, signalling back reports, gave positive assurance of the absence of the enemy. About 7 o'clock A. M., a message from the General commanding announced to the fleet the evacuation of Yorktown. Lieutenant T. R. Clark, A. S. O., with the fleet, on board the "Marble Head," had previously, at 5:30 A. M., observed the evacuation from that vessel; and had, at that time, signalled the report to the flag-ship. (Sub-report 48.)

The fleet at once moved from its anchorage, and occupied the channel between Yorktown and Gloucester.

Upon the first announcement of the retreat of the enemy, a party, under command of Lieutenant H. L. Johnson, 5th Connecticut Volunteers, and A. S. O., had been sent to Yorktown to establish a signal station in that place; and to send officers to open communication across the river to Gloucester, as soon as that place could be safely entered. The officer detailed for this purpose, was fairly on his way across the river, in a skiff, to occupy Gloucester, before the enemy had abandoned that position. He was recalled, to save him from capture.

As the fleet moved up, the enemy hastily abandoned that position; and a signal officer landed with the advance of our troops who occupied it. By 10 A. M., stations had been established, and were working, at Farenholt's house, Yorktown, Gloucester, and on the fleet; communicating with headquarters through the station on Farenholt's house.

Communication with the fleet had not been suspended during the movement of the vessels from the anchorage to Yorktown. The messages transmitted, this morning, were numerous and important. The General commanding received, at Camp Winfield Scott, reports from Gloucester and Yorktown; and from the senior naval officer (on board the flag-ship, some miles distant, and out of sight), frequent statements of the position of the fleet; of reconnoissances made up the river, and as far as West Point, by steamers ordered on that duty; of captures made; and of the naval plans and orders. In return, he communicated his own wishes (to which he had immediate response), and his plan for the movement of the combined fleet and army.

Among other messages thus telegraphed, was one from the

General-in-chief, announcing his intention to move up the river, that day, the transports with the troops under General Franklin; and asking a convoy of war vessels: one relating to the reported embarkation of the enemy at a wharf beyond Williamsburg, which embarkation it was desired to prevent; and one to save the railroad bridge across the Pamunkey river (which the fleet proposed to destroy).

The reports from the fleet showed that the river was without obstruction as far as the White House; that the white flag was flying at several points on its banks, and at West Point; and that no troops were there visible. The wharf beyond Williamsburg was reported as destroyed by fire, and as yet burning. One or two large vessels were found on the stocks, at West Point.

The signal stations on the right of the army, other than those above mentioned, were this day abandoned; and the parties were concentrated, to accompany the advance of the army. Late in the afternoon, the sound of cannon announced that the advance guard of the army had overtaken the enemy, and commenced the battle of Williamsburg.

#### BATTLE OF WILLIAMSBURG.

On the 5th of May, headquarters of the Army of the Potomac were still at Camp Winfield Scott. The last arrangements were making for the movement of General Franklin's forces, which, sailing up the river, and landing at West Point, would turn any position taken by the enemy lower down upon the Peninsula, and would also threaten the flanks of their retreating columns.

The signal officers with this command, sometime before detailed to it by order of the commanding General, had been distributed among the transports. Other signal officers, of the fleet detachment, were on the gunboats to accompany them. The services of these officers will have particular mention in relation to the battle at West Point.

The signal detachment of the left and centre, in charge of Lieutenants Daniels and Fisher, A. S. O., had moved forward with the advance of the columns to which they were attached.

The movement to Williamsburg encountered the gravest difficul-

ties, in miry roads, puddled by the footsteps, and broken into ruts and great holes, by the wheel tracks of the retreating army. These roads led through forests. A heavy rain had been falling all day.

At General headquarters we had heard the sounds of a continued battle since daylight. About 3 P. M. officers of the staff arrived from the front. The Chief Signal Officer was notified that the General commanding was about to go upon the field; and was instructed by him, in person, that communication was desired between the army and Williamsburg and the gunboats which were to be sent up from the fleet, that night, to act with it. He was directed to arrange officers for this communication. In obedience to these orders, additional officers, carrying with them full written instructions as to the arrangements to be made, were sent to report to Lieutenant J. W. DeFord, 11th P. R. V. C., and A. S. O., on board the flagship.

Two signal officers were to be placed on each gunboat, sent to take part in the action. Of these, one was to land, if necessary, and join our troops near Williamsburg, whenever they might be visible. The communication of the gunboats to any point on shore, visible from their decks, and held by our forces, was thus made certain.

Lieutenant H. L. Johnson, A. S. O., was ordered to the front, with a detachment of six officers and their men, which had, the day before, been concentrated. This party started immediately.

By the time these arrangements were completed, it was night. It was very dark, and rain still fell rapidly.

The signal detachment of the forces with Generals Sumner and Keyes, moving with the column on the march to Williamsburg, acted, during the march, as scouts to reconnoitre, and as aids, to carry messages and reports. Their duties, in this character, were continued on the field of battle.

The smoke, the mist, the heavy rain, and the dense woods, rendered signalling impossible. Some of the officers were posted, by the officers in charge of the detachment, where they could use their telescopes, and whence they announced to the commanders near them, either by orderlies or in person, such movements of the enemy as they were able to see. Towards evening, Gene-

ral McClellan arrived, and went upon the field of battle, on the right.

Soon after his arrival, in reply to an inquiry made by him, whether communication could be had with the gunboats expected to arrive at night, Lieutenant B. F. Fisher, A. S. O., reported to him, and received his orders to establish the communication required.

This was successfully accomplished, upon the arrival of the vessels, though the night was one very unfavorable for signalling. The shore-station was about a mile inland from the river, and close to the field of battle. The fact was communicated to the commanding General as soon as accomplished.

Lieutenant Fisher caused another signal station to be erected near one of the works, on the battle-field, and made ready to call and direct the fire of the gunboats, should it be needed, at daylight.

The Acting Signal Officers who assisted Lieutenant Fisher, and those on the gunboats, whose care and watchfulness contributed to the result, are entitled to equal credit. The names of these officers (and of others who deserve mention, at this place), are given in my report of June 22, 1862. (Sub-reports 45.)

There is reason to believe, that the knowledge of this communication was of some importance to the commanding General.

At daylight, the enemy had evacuated their works, and were in retreat beyond Williamsburg.

A signal station had been established at the mouth of Queen's Creek, from which various messages were sent, until the transports, with supplies, began to arrive.

On the arrival of the Chief Signal Officer, on the morning of the 6th, communication was opened from the gunboats to other stations well inland, and was kept open, at the request of General Smith, whilst the troops moved forward to occupy Williamsburg, and until that village had been occupied in force.

The fleet of transports with General Franklin's command, was passing up the river to West Point, as our troops were marching into the place.

The headquarters of the army halted at Williamsburg some days, while the trains of the army were brought up through the

almost impassable roads, and the wounded of the battle were cared for. Fresh troops were pushed forward in pursuit of the enemy; while those which had suffered most in the engagement, followed more leisurely.

The advance-guard, under General Stoneman, pursued closely the retreating army. A party of three signal officers, with their men, accompanied this guard, and was actively employed watching the enemy, and reporting their movements.

On the day following our arrival, the Chief Signal Officer was ordered to connect, by signal stations, if possible, the village of Williamsburg with West Point. It was the plan, that communicating stations should be placed on three schooners, anchored some miles apart, in the river; and the messages, sent from a station on shore, at West Point, were to be repeated, through the schooner-stations, to another station, on land, at the mouth of Wormley Creek. Hence, through other stations, they would be sent to Williamsburg. The distance was about twenty miles. The schooners were to be brought from Yorktown.

With much labor, and many tiresome delays, the stations were at length established (May 9th); but only on the day on which headquarters, moving again to the front, left them useless.

At Williamsburg, as at Yorktown, the Chief Signal Officer felt deeply the want of Field Telegraphic Trains; which would have rendered communication, at least over part of this distance, certain and easy. Sub-reports (1, 4, 12, 13, 25, 31, 47,) make reference to this battle.

#### BATTLE OF WEST POINT.

While General headquarters were at Williamsburg, the battle of West Point was fought. The command of General Franklin, arriving at that place, under convoy of the fleet, on the evening of May 6th, had, by the morning of May 7th, been so far disembarked, that a large force of infantry was on shore, but not yet in perfect condition for action. It was without cavalry, and but poorly supplied with artillery.

The disembarkation, from numerous transports, of various description, was yet in progress. The position was almost sur-

rounded by thick woods, which came down near to the river. The country, which was difficult, was not well known by our troops.

Whilst our forces were thus placed, the pickets were driven in, and heavy volleys of musketry announced the approach of the army under General Lee, advancing, in great force, to the attack; with the hope, doubtless, that our troops, taken unprepared, and yet landing, could be routed, and driven into the river.

At the same time, a battery of heavy field-guns opened, from a height, at once upon the army and the transports. It was a moment of serious danger; and the most rapid action was necessary.

Part of the signal officers of the expedition had landed, with the troops to which they were assigned. The firing, on shore, caused those on the war vessels and the transports to be everywhere on the alert.

General Franklin, on the "Mystic," at West Point, was sent for, by signals. The order went quickly from the shore to the fleet, and as quickly from ship to ship, to move up and cover the army with their fire.

With a promptness impossible without this communication, the vessels were brought into position, and threw in the fire of their great guns, to aid that of our army.

The contest was not long; the enemy's batteries were silenced; and their troops, repulsed and broken, fell back through the woods, followed, for a long distance, by the shells of the navy.

The reports of Lieutenants Beckett, 56th New York Vols., and A. S. O.; J. C. Wiggins, 31 New Jersey Vols., and A. S. O.; F. W. Owen, 38th New York Vols., and A. S. O.; and J. W. De Ford, 11th P. R. V. C., and A. S. O., (papers 37, 31, 12, 25, herewith,) will enable the General commanding to judge of the services of the signal officers at this place. The letters of the senior naval officer, Commodore W. Smith, and Lieutenant Commanding T. H. Stevens, (papers G, M,) refer to the assistance given by them; and, as I am informed, General Franklin, soon after the battle, in an official note, made special mention of the subject. The promptly combined action of the army and the navy, was the result of their efforts. The names of the officers principally engaged in this

action, are given in my preliminary report of June 18th, 1862. (Sub-report 45.)

On the 9th of May, headquarters moved from Williamsburg; and on the following day they were at Roper's Meeting House. While here, a line of repeating stations was formed, connecting the headquarters of the army with the troops at West Point. It did not work well, however, and was used only for the practice of the officers. At this place, the corps was joined by a detachment from Georgetown; bringing with it the first field telegraph train ever used in the field by an army of the United States. It was that of which mention has been made as partially completed, and as used at the Camp of Instruction. It was a light structure, on wheels, carrying reels, from which there could be spun out insulated wire. It was fitted with telegraphic instruments of a kind before unused. It had been intended that the reels of this train should carry ten miles of wire, so prepared that it might be laid on the ground, and used, anywhere, without the escape of the electric current.

Different hindrances had made it impossible to furnish more than four miles of copper wire, coated with gutta-percha, and of a rather inferior quality. The magneto-electric instruments, devised for the train by Mr. G. W. Beardslee, of New York, were of new invention. The working current for these instruments, when placed on telegraphic line, is generated by a pile of magnets—a part of the instrument itself. The letters of the alphabet are plainly marked on the dial. To cause the letters to be indicated, at either end of the line, or to read them, are operations so simple, as to be within the power, with little practice, of almost any soldier who can easily read and write. The instrument is used without fluids, without galvanic batteries of any kind, and is compact, strong, and portable. For use, with flying telegraph trains, on the field of battle, and for military telegraphs in general, I have regarded such instruments as necessary. I am of the opinion, that it will be recalled, at sometime hereafter, with no little pride, that field telegraphic trains, of this character, and thus equipped, were first brought into use by the Signal Corps of the army, and were first used with the army of the Potomac.

The remains of this train, to which some historic interest already

attaches, are now preserved at the Signal Camp of Instruction, Georgetown, D. C.

In the first attempts to experiment with, and to use the train, an unexpected difficulty was encountered. The soldiers, unused to the coated wire, and seeing it stretched for miles along the fences, or lying on the ground near the road, would cut and break it, to examine its character. Some of them thought it an invention of the enemy.

On the 13th of May, General headquarters were established at Cumberland. When, soon after our arrival here, the alarm was given that the headquarters' train was endangered, and that the enemy's forces were advancing, the General commanding, with his staff, started for the field, in person. A detachment of five signal officers, equipped, accompanied him. The alarm was groundless.

There was some communication here, by signals, with the vessels on the rivers. A line, of five signal stations, was also established from this place to the advance-guard, under General Stoneman, then occupying White House. A few messages were sent to and fro over this line; but its principal use was for practice.

On the 10th of May, headquarters' camp moved to White House, on the Pamunkey river.

Among the reconnoissances made by signal officers, from this place, was one to the Chickahominy, near Bottom's Bridge; the first time, perhaps, the waters of that stream were seen by any of our army.

On the ensuing day, the corps commanded by General Keyes moving up to occupy a position near Bottom's Bridge, Lieutenant H. L. Johnson, A. S. O., with a detachment of signal officers and their men, was ordered to report to, and remain with him, for duty.

From that time, until after the passage of the Chickahominy, this detachment served under General Keyes, and always with the advance of the corps.

A station of observation was established near Bottom's Bridge; whence the movements of the enemy, whose pickets were now in sight, across the river, were visible: and thence, by a signal line, communicated numerous reports to General Keyes's headquarters.

On the day of the passage of the Chickahominy, a part of this detachment crossed with the first troops, and opened a station on

the bluff, near Burnt Chimneys, and close to the picket line; placing that line in communication with General Keyes's headquarters, then at Old Tavern.

This duty led to a remarkable collision. The advance signal party was annoyed by the enemy's picket firing, from a farm-house near them. The station would soon be untenable. The signal party was quietly mounted; and then, on the order of its commander, furiously charged the offending pickets, as the story ran, with telescopes. The panic-flight of the enemy evinced their dread of the novel armament. The party carried, however, revolvers, as well as field-glasses.

From this date, the detachment served with the advance of the forces on the southern side of the Chickahominy.

While General headquarters were at White House, the wire of the Field Telegraphic Train was extended a distance of three miles—lying on the ground, and hung on bushes, by the sides of the road. Experiments were made, in transmitting messages, while the wire was in process of reeling out. They were successful; and attracted much attention by their novelty.

A line, of four repeating stations, was established from White House to General Stoneman's advance-guard, a few miles distant. This line was well worked; and was used for official messages.

On the 16th of May, headquarters were moved to Tunstall's station, on the West Point and Richmond Railroad.

As the army moved from White House, the advance-guard, under General Stoneman, pushed rapidly forward to Old Coal Harbor, and, with his advance, encountered a small force of the enemy's cavalry at Gaines's Mill, near New Bridge.

A detachment of signal officers accompanied this advance, joining the small party which had served with General Stoneman previously. With the column moving in the field, these officers were found everywhere in the advance, and perched upon the roofs of the prominent dwellings. They sometimes anticipated the march of the advance-guard. The distances over which they could work, however, were, from the formation of the country, generally short; and a single message could go by courier almost as rapidly as by signals. The labor of so large a party seemed unnecessary, and the greater number were ordered by General

Stoneman to discontinue; that officer retaining with his advance the three who had accompanied him from Williamsburg.

On the next day, the advance-guard reached the banks of the Chickahominy, at New Bridge. Some scattered forces of the enemy, and a few guns, very plainly exposed, were visible, on the crest of the hill, on the Richmond side of the river.

On the northerly side, on the first elevated ground of the river bank, were the Hogan and the Gaines mansions. These houses were about three-quarters of a mile distant from each other. From a point near the Hogan house, could be had an extensive view of the bottom-lands bordering the river, and of the country upon the opposite bank.

A station of observation was established here, under the direction of Lieutenant N. Daniels, A. S. O., and was held for some days, while outside of our line of pickets. This station afterwards became one of much importance.

On May 22d headquarters were established near Coal Harbor.

From General headquarters to the station in front, near Hogan's house, a line of six repeating stations was made. The officers were kept constantly on these stations. Messages were transmitted to and from the front, over this line, with reasonable rapidity and accuracy. There were no great movements of the enemy visible from the station of observation, and there was little to report. The chief value of this line, as of the other repeating lines established at Williamsburg and White House, during the march of the army, was in the practice, and consequent skill which work upon them gave the officers on stations.

From headquarters' camp, at Coal Harbor, parties were sent out to reconnoitre the course of the Chickahominy, from Bottom's Bridge to New Bridge; and to select those prominent points which might serve, in case of need, as communicating stations. These parties were instructed, also, to note prominent points in view on the southerly side of the Chickahominy.

The knowledge of the country gained by these parties, showed it practicable to communicate, by signals, between the portions of the army occupying the northern, and those at this time on the southern side of the Chickahominy. The stations would be, however, some distance to the rear of the advance on both sides of the

river; and that on the south side of the Chickahominy, near to the railroad, on which a line of electric telegraph was then building. It was not thought worth the while to occupy them.

From Coal Harbor, the insulated wire of the field telegraph was run out a distance of two miles, for one day, to a point near the headquarters of the advance-guard. These headquarters moving, it was reeled up on the same day.

#### THE SKIRMISH AT MECHANICSVILLE.

Early in the afternoon of the 24th of May, our artillery opened upon the enemy, for the first time, on this part of our lines, at New Bridge. The fire, sustained for sometime, elicited no response. During its progress, the advance-guard, under General Stoneman, with a brigade under General Davidson, moved towards the village of Mechanicsville, then known to be held by a force of the enemy. The artillery joined this column on the march.

A detachment of seven signal officers, hastily collected from stations in the vicinity, moved with our forces.

From the upper story of Austin's house, a dwelling located on a high bank on the east side of Beaver Dam, a first view was caught of the enemy, on the other side of the Chickahominy, near Mechanicsville bridge, and of the spires of Richmond.

Before the fact that the enemy was visible could be announced to the commanding General, the head of the column, ascending on the Mechanicsville road to the crest on the west side of Beaver Dam, was received by a discharge of the enemy's artillery; and the engagement was commenced. At the same time, a battery of two guns, stationed on the south of the Chickahominy, near a bridge, opened in a vain attempt to reach the left of our line, near Austin's house, on the east side of Beaver Dam. It was not known what force of the enemy might be near this battery. A signal officer was stationed on the left of our lines, to watch it, and to report, by signals, any movement of the enemy in that direction to another officer, stationed near the battery, engaging the enemy on the west side of Beaver Dam; and, also, to another officer, stationed with the battery firing from near Austin's house. The skirmish was of short duration. Our troops were hardly de-

ployed in line of battle, when the enemy's fire ceased, and they retreated to Mechanicsville. A signal officer, stationed at Austin's house, reported six guns as moving near that village. It was dark by this time, and the troops bivouacked for the night.

By order of General Stoneman, two signal officers were sent to report to General Davidson; and a code of rocket signals was arranged, by which to indicate certain movements, if made by his forces, during the night.

At daylight, the troops advanced upon the village; and after some artillery firing, occupied it. As the line moved up, General Stoneman, at his headquarters, near Austin's house, was kept informed of its progress, and of the moment of the occupation of the village, by signals, from the officers who accompanied the troops. As soon as the village was occupied, a courier was dispatched, ordering the wire of the field telegraph to be run out from a dwelling near the Hogan house, by this time occupied by General W. F. Smith as his headquarters, to a point near Mechanicsville. This was done in a few hours' labor, in a heavy rain; and soon after noon, the telegraphic communication was established from the headquarters of General Davidson, near Mechanicsville, to the division headquarters of General Smith. The ease with which this was done, illustrated the rapidity with which, under more favorable circumstances, such communication might be made available.

On the day following the occupation of Mechanicsville, a station of observation was established near that village, which was held almost constantly while our troops occupied the place.

On the next day, an expedition of cavalry, with a detachment of mounted artillery and a field piece, under the command of Major A. S. Webb, of the Rhode Island Artillery, started to examine the country in the vicinity of the Richmond and Virginia Central Railroad.

Two signal officers joined the expedition for the purpose of reconnoissance. This expedition penetrated the enemy's lines for some miles, driving in their pickets and scattering their supports, and finally reaching the railroad at a station near Greenshaw's, twelve miles from Richmond. The track was destroyed and set on fire in two places. In this work of destruction, the turpentine

from the canteen, which signal soldiers carry, was found to be a useful auxiliary. By the time the party reached it, it had been reduced, by pickets left on different roads, and guards at houses, to about twenty-five men. The drums of the rebel force, camped in the vicinity, could be distinctly heard beating the alarm. The party returned to our lines unmolested.

On May 26, headquarters' camp was established near New Bridge. (Sub-reports 1, 27, 17, 26, 22, 34, 37.)

#### BATTLE OF HANOVER COURT-HOUSE.

On the evening of May 26 the Chief Signal Officer was informed that a force, under General Fitz John Porter, would move at daylight to attack the enemy, at Hanover Court-House. He was directed to provide a signal party to accompany it. A signal party of seven officers, with their men, fully equipped, and with three days' rations, were ordered to move with the troops at daylight.

The Chief Signal Officer accompanied this party. It had rained during the night, and part of the previous day. On the morning of the 27th it was still raining. The columns moved with difficulty, and slowly.

At about 11, A. M., the outposts of the enemy were encountered. About noon, the head of our column, near Hanover Court-House, came suddenly upon a force of the enemy, apparently advancing to meet it. The lines of both armies were formed at once, and the battle commenced with artillery.

At nearly the right of our lines our principal battery was posted, and was instantly engaged. A few hundred yards to the right of this battery, and in front of our line, was a clump of woods, from which was had a good view of the enemy, and, also, of the fields they occupied. Lieutenants Marston, 40th Pennsylvania Volunteers, and A. S. O., and Gloskoski, 29th New York Volunteers, and A. S. O., were ordered to establish a station here, to observe the enemy, and to report, by signals, to Lieut. Homer, 6th New Jersey Volunteers, and A. S. O., who was placed at the battery, and to headquarters' station, near the General Commanding. (Sub-reports 26, 31, 1.)

Lieutenant G. H. McNary, 10th P. R. V. C., and A. S. O., was posted on a house some distance in the rear of the battery, and commanding a view of the fields in front. He was directed to report to headquarters' station. (It was intended to use this station to communicate with the front, in case our line advanced fighting.)

Lieutenant Thickstun, 83d Pennsylvania Volunteers, and A. S. O., was placed upon a house on the left (where he could see the open country,) in order to report any movements of the enemy from that direction. (Sub-report 6.) Lieutenants Norton, 10th P. R. V. C., and A. S. O., and Wiggins, 3d New Jersey Volunteers, and A. S. O., were held in reserve.

All the officers mentioned were in range of artillery fire.

The fire upon the stations occupied by Lieutenants Marston and Gloskoski, Homer and McNary, was particularly severe. The flag had no sooner been raised, on the advanced station, than it was greeted by a volley of musketry. Though immediately screened behind trees, its position was much exposed throughout the action.

Lieut. Homer, stationed with the battery, received, of course, his share of the shots directed at the guns; whilst Lieut. McNary, posted in the rear of the battery, was in line of shots which went over it, and seemed, by his elevated position, to attract not a few intended for himself.

Messages were received from the advanced station, by the station at the battery directing the aim of the guns, announcing the retreat of the enemy, and replying to a question as to the nationality of a body of troops which appeared on the field. The latter, fortunately, just in time to prevent our own forces, which, advancing, had that moment come in view, from receiving the fire of our guns.

The enemy were driven from their first position after a contest of about one hour's duration. Our line advanced towards Hanover Court-House in pursuit.

The stations at first established were abandoned, by order of General Porter. The Signal Officers were sent forward with the first skirmishers, reconnoitring and reporting, from elevated points in the field, and on the right and left of the line, as it advanced.

A station was erected on the top of a large house, overlooking the field of battle, near which it was, and the valley in which the village of Hanover is located. From this station a report was made that some regiments of the enemy, with artillery, were visible in the valley, near Hanover. Our advance soon after moved rapidly to that village. The signal party was hurried to the front to seek the position of the enemy, and kept on the road going west of Hanover, until a camp of the enemy was visible. It was here learned, from the returning troops, that the general advance of the army was not in that direction, whilst the sounds of artillery announced that a conflict had recommenced near the first scene of battle. Hastily turning back, the party again arrived on the fields just as the last shots were fired.

On the following day the army occupied the same position ; the dead were buried ; the wounded cared for.

The condition of the enemy's camps showed with what haste they had retreated.

A station of observation was opened on a prominent house, near the field of battle, whence frequent reports were made to headquarters. Other minor stations were also established. The officers were called in from these stations at sunset.

It was thought there might be a battle on the following day, and an order was sent back to camp, directing more officers to report the next morning. The party bivouacked on the field of battle.

At daylight the next morning, the Chief Signal Officer was ordered by General Porter to send a party to General Emory, under whose command expeditions had been sent out during the night.

The headquarters of General Emory were found at a church, or school-house, beyond Hanover. They were connected, by a line of repeating stations, with those of General Porter, yet upon the battle-field.

The Chief Signal Officer was also directed to extend a line as far towards the left, on the Ashland road, as was practicable. The headquarters of General Morrell, commanding on the left, were connected by repeating stations with general headquarters ; and when, a few hours after, the signal detachment ordered in the

night arrived, this line was extended a mile and a half towards Ashland. A signal station was erected upon the roof of the mansion before mentioned.

About 9, A. M., a dense cloud of smoke was reported as visible from this station. It was some miles distant, and in the direction taken by one of our expeditions.

Not long after, a signal dispatch from General Emory announced that our troops had reached Ashland, and the destruction of the railroad bridge. This was followed by other brief messages and reports. Orders went soon after to General Emory to call in his force.

The object of the advance on Hanover (the destruction of the enemy's communications, by railroad, north), had been accomplished, and the Army Corps was about to rejoin the Army of the Potomac.

The signal lines were ordered to be broken up. The last message—one of "all quiet"—came from the left. The party was concentrated, and moved for their camp on the Chickahominy. At one o'clock all our troops were in motion on their return, and the headquarters of General Porter had left the field of battle.

#### THE SIEGE OF RICHMOND.

The siege of Richmond may very properly date from the time at which headquarters' camp was established at New Bridge. By the closing days of May the left wing of the Army of the Potomac had advanced along the railroad, toward Richmond, to beyond Fair Oaks. It was concealed in the dense woods, and held the swampy and uncomfortable ground on the south side of the Chickahominy. Its advanced pickets were just in view of great cleared fields and high grounds, which, if attained, would bring them almost within range of Richmond, and in healthy encampments. The right of the army was stretched along the northern banks of the Chickahominy, from Bottom's Bridge to beyond Mechanicsville. There were bridges at Bottom's Bridge ; at the railroad ; at a point above the railroad, a corduroy structure, known as Sumner's Bridge, and three bridges nearly completed—one at, one above, and one below the location of New

Bridge. The open country mentioned as in front of the left wing, reached to the bridges at New Bridge, and there were large fields on both the north and south sides of the Chickahominy.

The Corps of Generals Heintzelman and Keyes occupied the southern side of the river. The northern side was held by the corps of Generals Sumner, Hooker, and Franklin.

The signal party serving on the south side of the river under Lieutenant H. L. Johnson, 5th Conn. Volunteers and A. S. O., had been working faithfully, under most disadvantageous circumstances; they were shut in everywhere by swamps and thick woods—there were no points from which they could communicate to advantage—the army was new—the Generals did not know how to employ signal officers, and the officers had yet to gain by service experience as to the best modes in which to employ themselves. There were, however, signal stations along the railroad, connecting General Heintzelman's headquarters, at Savage Station, with the front beyond Fair Oaks, and the officers had reconnoitred faithfully, but with little success, along the picket line for points of observation.

On the northern side of the Chickahominy, the field-telegraph line was extended along fenees and in trees, from General Headquarters to near Mechanicsville. (Sub-report 20.) The soldiers had ceased to cut the wires, patrols had been established, and the line was working successfully and with little interruption.

There was a station of observation near Mechanicsville, and the station near Hogan's house, above New Bridge, which had been occupied from the time the advance of the army reached it. From this station could be seen the line of thick woods in which we knew the left of the army lay covered; but, though it was scanned carefully every day, and often with glasses, no friendly soldier was visible.

#### BATTLE OF SEVEN PINES.

On the 30th day of May, was fought the battle of Seven Pines. This battle was fought in the rain, in a thick woods, and without any pre-arranged plans on the part of the forces. The left of the army resisted the furious attack of the enemy, wherever and how-

ever they were able; fighting in the dark, as it were; sometimes first knowing the presence of the foe by receiving their fire. Under such circumstances, and on such ground, it was impossible for the signal officers to use signals; nor does it seem, from their reports, that they acted as reconnoitring officers, reporting by courier. Some of them joined the staffs of different Generals, and served gallantly enough as aides. The temptation for a signal officer to convert himself into an aide, is always serious—the duties of the latter, as rendered in our service, requiring less care, and much less trouble; for this reason, and to discourage the practice, no mention has been made, in my preliminary report, of any services of signal officers at Seven Pines.

The fight raged furiously from about noon. From a signal station, near Hogan's house, the shells could be seen bursting in the air, and the smoke rising above the tree-tops, while the sounds of the battle were distinctly audible. About 3 p. m., a brigade forming, as it seemed, a part of the enemy's left, moved in line of battle, with skirmishers in front, across the open fields, south of New Bridge, to join the action. A few guns were, at the same time, fired by a battery near them. The movement of these troops was visible by many of our officers, and excited comment by its steadiness. The fire continued heavily long after night fall, and when it ceased, both armies only rested for the struggle of the following day. (Sub-reports 11, 31, 34, 36.)

#### THE BATTLE OF FAIR OAKS.

On the evening of the 31st of May, the Chief Signal Officer was informed, at headquarters, of the result of that day's battle. It was known, in the night, that General Sumner had succeeded in crossing the Chickahominy with his corps; that the progress of the enemy was checked; and, that there would be a battle in the morning. It was announced in the evening as the plan, that the corps of Franklin and Porter would cross, in three columns, the three bridges near New Bridge, at daylight—the crossing to be covered by the fire of numerous batteries, posted on the first rising grounds north of the river. This would bring a force on the flanks of the enemy, engaging with his front our troops near Fair Oaks.

It was reported, also, that there was trouble at the crossing of Bottoms bridge, the bridges being crowded with wagons and troops. A signal party was ordered down, in the night, to render assistance, if it should be required, by transmitting orders from one side of the river to the other. There was no occasion for the services of this party. All officers and men of the signal party, fit for duty, were ordered to be ready to move, from camp, before daylight.

At daylight the next morning, the whole army was under arms. The signal party was moved to near New Bridge, and parties were arranged to accompany the columns to cross, as follows, viz :

Four officers, with their men, reported to the commander of each column. Two were to cross at each bridge with the troops, and two to remain with the batteries detailed to cover that column.

Of the officers crossing at each bridge, with the first troops, one was to carry the white, the other the red signal flag. The white flag was to transmit messages relating to the general service. The red was to be used to direct the fire of the artillery. The communicating officers, stationed at the battery, were similarly equipped as to their flags, and had similar instructions.

Orders were sent to the station near Mechanicsville, to carefully watch each movement of the enemy, in that direction, and to report, by the line of field-telegraph, to general headquarters, each half hour. There were two balloons fastened, and floating in the air, some hundred feet from the ground. One of these was near Mechanicsville, the other close to the Gaines house. An officer was sent to each of these, with orders to ascend. The one near Mechanicsville to report, by signals, from the car of the balloon, to a point near headquarters, any information he might gain ; the other at Gaines's house, to attempt to open communication, from the car, with any signal officer serving with the left, whose attention he could call : or, with any signal officer, after our troops should advance and have crossed the river.

These ascensions were made as ordered, but without result. (Sub-reports 31, 34.) Very little could be seen from the balloon near Mechanicsville. There was no reply from the left, to the signals made from the car to that near Gaines's house.

The scene, near New Bridge, after daylight, was one of interest. The morning was clear and still. The sun shone brightly after the rain, which had fallen in the night. There were, everywhere, bodies of troops ready to cross, and batteries of cannon from their chosen positions, covered almost every point of the opposite slope. At the bridges, working-parties were working busily. Now and then shots were exchanged across the river. It seemed as though the moment of battle had come. But the bridges were not ready. It was whispered, soon, that they could not be finished in some hours. Then, not on that day; and later, it was known that the crossing was impracticable. The heavy rains had had their effect. The stream had risen and was still rising. It had overspread its banks, the treacherous soil was saturated, and the bottom of the valley had become a morass.

While the troops of the right thus waited we heard the roar of the battle raging at Fair Oaks, and soon after came tidings of the defeat of the enemy.

The services of the signal party with the left in this battle were, in character, similar to those of the day before. They were aides, and carried many important messages.

The signal party at New Bridge were kept in the field all day, and bivouacked there at night on this and the following day, to be ready for their part in any movement that might be ordered.

On the 2d of June the enemy had retreated to Richmond.

On the 3d of June, a party of Signal Officers, with their men, under Lieutenant Franklin Ellis, Tammany Regiment New York Volunteers, and A. S. O., was ordered to pass our line and make a reconnoissance as far as James river, to ascertain the practicability of communication, by signals, between our army and the naval vessels then lying in that river. This party reached the river at Westover, and there boarded a flag-of-truce boat. It then returned by way of Charles City Court-House.

Communication by signals was found to be impracticable. It was thought, by the officers, that messages might be sent by rockets, or from the ear of a balloon. (Sub-reports 33, 46.)

## COMMUNICATION OPENED BETWEEN THE RIGHT AND LEFT.

Up to the date of the battles of The Seven Pines and Fair Oaks, as has been mentioned, no portion of the left of the army had been visible from ground held by the right. The enemy had some guns on the heights near New Bridge, and troops in the woods near Prince's house. From the station near Hogan's house we could discern, with glasses, two guns and numbers of troops near James Garnett's house.

The result of the battles of May 31st and June 1st had not enabled the left to reach the open country in their front ; they were yet hidden in the woods. From the time the construction of the bridges near New Bridge had commenced, there had been, now and then, artillery firing between our batteries posted to cover them, and the enemy's guns near Prince's house.

After the battle of Seven Pines the enemy seemed to increase their force at this point, earthworks began to be visible, and their artillery had better ranges. From this time, for as long as the army remained before Richmond, the defences on the southern side of the Chickahominy grew more formidable. It was customary to fire, on either side, at any object that attracted attention, and sometimes it seemed only for practice. The signal station near Hogan's house was close to a battery of 20-pounds, and thus received its share of projectiles.

On the 2d of June, an officer at this station observed, with his telescope, a number of men moving on a spot of cleared ground, among the woods on the other side of the swamps of the Chickahominy, and beyond the enemy. They seemed to have just reached the place. They were about three miles distant and wore our uniform. This, however, had ceased to be distinctive ; the enemy wearing it, and with impunity, whenever they could obtain it. Two signal officers, with their men, were ordered to cross the river at Sumner's Bridge, and to reach this spot, if found to be held by our army. It was dark when they reached this bridge, and it was found impassable. Early the next morning they crossed at the railroad, and, after a journey of about ten miles from their point of departure, reached the clearing on Golding's farm ; which

was found to be occupied by the advanced pickets of General Burns' brigade. Their signals were seen at once, and answered from the station at Hogan's; and it was then first known that our forces on the opposite side of the Chickahominy, were in view of each other. These stations were worked from this day until the morning of the battle of Gaines' Mills; and, for the first days, with some danger, the enemy knowing the position of both and trying often to reach them with artillery. They were then, and for some time after, of importance—to communicate by courier between the points requiring a difficult ride of some seven miles. On the day following the occupation of this station, the division commanded by General Smith crossed the Chickahominy and encamped on Golding's Farm. This signal line then became his mode of communication with General Headquarters, and so remained while headquarters were on the northern side of the Chickahominy.

When it was proposed that General Smith's command should move on Old Tavern, officers were designated to accompany it. The make of the country was such that they could, while moving, have kept constant communication with the forces north of the Chickahominy. During these days stations were established, at different times, at Austin's house, at the bridges, and at the batteries near New Bridge, whenever movements were heard of as contemplated, or when unusual firing on our part, or on that of the enemy, offered a chance for service. With the left of the army the officers had, by this time, established perches in the tree-tops, and had gained a knowledge of localities which rendered their reports of some service to the Generals receiving them.

About this time information was received at headquarters of the cavalry raid led by the rebel General Stuart, who, with two regiments and some horse artillery, passed the rear of our army, attacking the railroad train, and taking a number of prisoners, near Tunstall's Station. The news of this near approach of the enemy's forces created much alarm at the depot at White House, at which there were then but few of our forces. At the request of Colonel Ingalls, who commanded the depot, a signal officer, Lieut. F. W. Owen, 38th New York Volunteers and A. S. O., came ashore from one of the gunboats and established a sta-

tion, that night, on one of the chimneys of the White House. The war vessels took positions in which they could cover the depot with their fire. The enemy did not attack it.

On the 13th of June, General Headquarters moved to Camp Lincoln, on the south side of the Chickahominy.

The field-telegraph wire which had been so long stretched to Mechanicsville, was, on this day, ordered to be reeled up, and the train to follow headquarters to the other side of the Chickahominy. On the next day, this wire was stretched through the woods to General Smith's headquarters at Golding's, and the line was working. From this station at Golding's, communication was kept, by signals, with the station at Hogan's, and with another station, not permanently established, at Austin's house, near Beaver Dam. There was a station of observation at Mechanicsville. The messages received from these stations at Golding's, were transmitted by the field-telegraph line to General Headquarters, near Trent's house. Reports were required to be made three times each day and at midnight. The mist and smoke of the camps which overhung the valley often interfered with the regularity of the reports. There was, however, each day a general information as to the condition and movements of the enemy visible from the stations.

The signal party which had been serving with the left of the army here joined the main party. The different detachments serving with the Army of the Potomac, were, from this time, concentrated in one party, from which details were made for duty at different points as they were required. Experience had shown that a signal party serving with so large an army, was most usefully managed when kept together, to be distributed at the order of the Chief Signal Officer to those points where, on any day, their services might be required. The Chief Signal Officer, in his turn, obtaining at headquarters such knowledge of the plans of our own army, and the position of the enemy, as would enable him to direct the details, at the proper time, to positions in which to take part in contemplated movements. Lieutenant Fisher, as senior officer, was placed in immediate charge of the party thus concentrated.

It was the prevailing opinion now, that the battle of Richmond

would be fought on the open grounds, before mentioned, and which were now in our front, as we approached Old Tavern. Every preparation was made for the duties of the signal officers, when the army advanced. It would be their place, on the day of the attack, to keep in communication the forces which would be co-operating on both sides of the river. The country in front was favorable. The sickness, resulting from some months' exposure and hardship, began to tell seriously on the strength of the signal party, but those who remained were well drilled and waited with eager expectation. Each day evidences of the enemy in our front grew stronger. On the south side of the Chickahominy, picket firing was almost constant. It was stopped some time, by agreement. On the extreme left there were numerous skirmishes, some of them of such magnitude as to be almost battles. Shells were very often thrown into our lines, and were replied to by our artillery. In front of our right, stretching up the left bank of the Chickahominy, the enemy's earthworks grew more numerous, and their artillery was heavier. One day they brought a sixty-four pounder rifled gun, of which they had placed one or two in a battery, to bear upon the station at Hogan's, and fired deliberately at the officers, who steadily continued their signalling until ordered to cease. This station was made so frequently a target, that it was ordered to be moved to the edge of the woods, where it was hidden from the view of the enemy, though in range of their guns. With the same gun some shots were thrown at the station at Austin's, but failed to reach it. The shells from these guns were thrown far over our camps, opposite to them, on the north side of the Chickahominy. There were on our side no pieces of sufficient calibre to reply to them. A few days after, some four and one half inch rifled guns were received, and a day was set aside, (the 25th of June.) to try their range upon the batteries and the camps of the enemy.

#### ENGAGEMENT OF THE 25TH OF JUNE.

On the 24th of June, orders were received to so arrange for the next day, signal parties, as to be able to direct, from the south side of the river, the fire of the heavy guns, to open on the fol-

lowing day, from positions near Hogan's house, and also near Gaines's house. It was intended to silence the sixty-four's before mentioned; and also to direct the fire upon an earthwork in the vicinity of Old Tavern, and upon some positions of the enemy near Garnett's house. Lieutenants Camp and Wiggins, A. S. O., who had been serving for some time at the Hogan station, petitioned that, as this was to be active service, they might remain during the cannonade. Three additional officers were ordered to join them, and Lieutenant W. S. Stryker, 9th New York State Militia, and A. S. O., was sent to arrange the communications on the north side of the river. Lieutenant B. F. Fisher, A. S. O., was sent, with a party of four officers, to report to General Smith, and was instructed to arrange the communications on the south side of the river.

On the following morning, the officers were posted and were in communication, at the following points, in view of each other, viz: at the battery at Hogan's house, at New Bridge, at battery near Gaines's house, on Smith's redoubt, and in the edge of the woods near James Garnett's. The fire commenced at daylight, and was for a time met with a spirited reply by the enemy's guns. During this cannonade, a screen, which had been erected to hide Lieutenant Wiggins, (station near New Bridge,) from the view of the enemy, was penetrated, (at a moment his duties called him outside of it,) by a cannon shot from their guns. The fire for a time was quite severe. Later in the day the enemy's guns ceased to reply.

In front of our left, our picket line extended through the open fields near Garnett's; the enemy's line of pickets being in the same field, in view, and quite near them. As the shots from our long-range guns, on the north side of the river fell, their range and effect were noticed by an officer on our picket line. Messages were sent, from time to time, by him to an officer stationed behind the first range of woods, whence the report went by signals to the batteries on the other side of the river. In the afternoon, the shots ranged near the earthworks at Old Tavern, and as they fell in the woods, close to them, shouts, as of masses of men, would now and then be heard. Our guns were evidently so placed that they could seriously annoy the enemy and aid us in

our advance. The firing ceased at sunset. It was to be resumed on the following morning. Lieutenant B. F. Fisher, A. S. O., was ordered to take charge of all the details for this duty, and to report to General Porter, at daylight. The signal telegraph line was ordered, this night, to be reeled up, and to report to General Porter in the morning. It was anticipated there might be an engagement on the north side of the river.

#### ACTION IN FRONT OF FAIR OAKS ORCHARD.

On the day that this cannonade was taking place on our right, the action in front of Fair Oaks Orchard was fought upon our left. At this engagement there were present, at different times, Generals Hooker, Heintzleman, and McClellan. A detachment of four Signal Officers, with their men, Lieutenant W. G. McCreary, 102d Pennsylvania Volunteers, and A. S. O., commanding, had been sent at daylight to report to General Hooker. In the action which ensued, Lieuts. McCreary and Denicke, A. S. O., were posted in a tree-top in front of Casey's redoubt, (*i. e.*, Nos. 2 and 3, campaign map,) from which they overlooked the positions of the enemy not visible from the ground. Hence messages were sent, in reference to the direction and range of our artillery, then engaged, to Lieut. C. L. Kendall, 1st Massachusetts Volunteers, and A. S. O., stationed with the batteries. The movements of the enemy's troops, visible from this position, were reported to General Heintzleman. The station in the tree-top was rendered unpleasant by occasional shots from the enemy's sharpshooters. In addition to the services rendered by reporting the location and movements of the enemy, the reports from this station caused to be stopped, during the action, the fire of one of our batteries, which was persistently throwing its shells among our own men. The reports of Lieutenants McCreary and Kendall, A. S. O., (Sub-reports 21, 3,) herewith, have reference to this action. Preliminary mention is also made of this action in my report of July 18, 1862. The station was held until after the action had ceased. General Hooker requested that this detachment should be returned to him each day, while he held this position. (Sub-report 13.)

## EVACUATION OF WHITE HOUSE.

Early on the morning of June 26, a report received at headquarters from Lieut. Fisher, then at General Porter's headquarters, indicated that our heavy batteries near there would not open on that day. At noon on this day it was first intimated to the Signal Officer that an attack by the enemy in force upon our right, on the north side of the Chickahominy, and upon our depot at White House, was anticipated, and that a change of base to James river might be necessary. A telegram was instantly sent to General Casey, then commanding at White House, requesting that a staging for a signal station be raised at once upon the roof of the White House. Lieut. W. L. Stryker, A. S. O., was ordered to proceed from General Headquarters to White House, and, assuming charge of the communications there, to arrange with the Signal Officers upon the gunboats for their prompt co-operation. Lieut. Stryker left immediately for his station, some twenty miles distant. By noon of the following day the communications had been arranged. From this moment until the last of the evacuation the Signal Officers here, (on shore and on shipboard,) were actively on duty. To the perfect understanding thus had between our land and naval forces may be attributed, in some degree, the success of the complete evacuation of that depot in the face of an advancing enemy. Brig. General Stoneman, falling back with his light brigade on his way to Yorktown, here arranged, by signal messages, to place his wearied infantry on the vessels, and requested that a Signal Officer accompany him on his march down the Peninsula. Lieutenant F. W. Owen, 38th New York Volunteers, and A. S. O., was detailed for that purpose. The last message sent announced the close approach of the enemy. A few moments later the fleet of transports got under weigh. The White House was set on fire, by some unknown person, after the last officer and man connected with the Signal Corps had left it. (Sub-reports 2, 18, 8.)

## BATTLE OF MECHANICSVILLE.

About 4, P. M., on the 26th of June, a message from Lieut. Fisher, A. S. O., then at Hogan's house, north of the Chickahominy, announced that the enemy were moving down the north side of the Chickahominy, that there would be a battle at Mechanicsville, and that all the troops then on the north side had been ordered to be ready to cross to the south of the Chickahominy.

Lient. Fisher was about to leave, with the officers collected from the different signal stations near him, for the point at which the battle was expected. Very soon after a message from General Reynolds announced that, with the troops under his command, he had fallen back to a predetermined position, near Beaver Dam. At almost the same time this message was received, the roar of the battle at Mechanicsville made it evident it had commenced.

At the commencement of this battle Lient. Fisher distributed his officers as follows, viz: Lient. Beckett, A. S. O., with a battery on the right of our line, about one hundred yards from a prominent house on the field; Lient. Homer, A. S. O., with the extreme right; Lient. Wiggins, A. S. O., with the reserve. Lient. Fisher, with Lient. Birney, took post on the roof of the house mentioned, and at which a battery was stationed. From these positions, which were occupied as points of observation, the officers were able, by the aid of their glasses, to obtain information which could not otherwise have readily been given. Their reports were made to the different commanders near whom they were serving. Signals were not used upon the field of battle. The fire upon the stations occupied by the officers upon this field was quite severe. The fire of artillery continued until about nine o'clock at night; and when it closed, our troops everywhere had held their positions. During this action, one officer had been left at the Hogan station, communicating with the station on Golding's farm. It was presumed that this station was constantly watched by the enemy.

There is always a possibility that the key to signal communications may be, by accident or betrayal, in the possession of the

enemy. It is customary, for this reason, to disguise true messages, and to send, with an especial signal, messages intended to deceive. On this night, as soon as the firing had ceased, the Chief Signal Officer instructed the Hogan station to send, in plain view of the enemy, the message, "The five divisions have arrived."

As our forces intended to leave the position, this message, if it could by any accident be interpreted by the enemy, would lead them to believe that we proposed to hold it. No other messages were sent this night.

The field-telegraph train, which had arrived from the south side of the Chickahominy, on the morning of this day, had been ordered to be extended from General Porter's headquarters which, later in the day, (during the battle,) was the position of General McClellan, to a point near Coal Harbor. The wire had been reeled out accordingly. It had fallen again among new troops, who investigated its composition by cutting it; and the officer going to Coal Harbor had been warned that the enemy were approaching that position, and that it would not be held by our troops. The line was not working. Under these circumstances, the wire was now ordered to be reeled up, and the train to recross the river. At about 10 o'clock, the officers and men collected from the field of battle were gathered at Hogan's station, and arrangements were made for them to take part in the battle of the following day. It was the common impression, at this time, that a great battle would be fought, the next day, on the south side of the Chickahominy. Lieut. Fisher was ordered to return to the Signal Camp, near General Headquarters, and to join, at daylight, with additional officers, the party on the north side of the Chickahominy, to serve with General Porter. The remainder of the party, (with the exception of four officers detached to General Hooker,) fit for duty, was ordered to be at the station at Golding's farm, equipped, and there to await orders to move with the forces on the south side of the river.

The officers in charge of the wagons of the signal detachment were ordered to be ready to strike camp at any time, and to accompany the movement of General Headquarters. (Sub-reports, 17, 26, 22, 34, 36, 37.)

## BATTLE OF GAINES'S MILL.

Before daylight, on the 27th of June, the sound of cannon announced that the battle had recommenced. Word was sent to Lieut. Fisher to carry out the instructions given him the night before. The signal detachment serving at Gaines's Mill numbered eight officers, with their flag men.

As our troops fell back from Mechanicsville, the station at Hogan's house was abandoned, the enemy's skirmishers being then in the same piecee of woods, and not far distant.

When our forces took up their position near Gaines's Mill, Lieutenant Fisher disposed of the officers of his command as follows, viz : Lieutenant Gloskoski, A. S. O., was stationed near the north end of Duane's bridge, whence he observed and reported the movements of the enemy, in the valley of the Chickahominy, at points where they crossed the river from the south to the north side, to take part in the action, and upon the heights on the north side adjacent to the stream. These reports were signalled to Lieutenant Camp, A. S. O., stationed near General Porter's headquarters. Lieutenants Wiggins and Fisher were upon the right of the army, and reported the appearance and advance of the enemy coming in the direction of Gaines's Mill and Coal Harbor. These reports were sent to Lieutenant Homer, near General Porter's headquarters. Lieutenants Tompkins and Becket, were ordered to open communication across the Chickahominy, from a point near General Porter's headquarters, to a point near General Smith's headquarters. These officers failed to make this communication. The persistence with which some of the officers held their stations in the ensuing battle of that day attracted attention. Lieutenant Gloskoski, reporting from the left, early drew upon himself the fire of the enemy's guns, to which he paid but little attention, and held his station until the destruction of the bridge behind him rendered it necessary that he should change his station. (Sub-report, 26.)

The station on the right was held by the officers upon it, until they were notified that to hold it longer, while it involved very great risk, would be useless. From all the stations reports were

sent to General Porter, near the Adams House, as the enemy drew near, and until in the smoke and confusion of the general engagement messages could no longer be sent.

About 2 p. m., the Chief Signal Officer received instructions from the General Commanding to open communication from the position then occupied by the General, near Trent's House, to General Porter's headquarters, on the field of battle, on the north side of the river. It would have been easy to carry out this order had it been earlier given ; and it would have been possible to do so had our troops on the north side been able to hold their position. As the action resulted, the stations—one at Trent's House, the other in a tree, near General Porter's headquarters—were no sooner determined upon than it became necessary to abandon them. With the retreat of our forces, at sunset, efforts to establish this communication ceased. During the progress of this engagement, Lieut. Denicke, Cameron Rifles, and A. S. O., stationed at Smith's redoubt, was able to render some service by reporting the effects, noticed with his telescope, of the shots directed from a battery of 20-pounder guns, there stationed, upon the enemy, appearing near Gaines's Mill.

The detachment held in reserve, on the south side of the river, rendered, on this day, no material assistance. There was no advance of our forces in which they could take part. Late in the afternoon, some of them were placed upon stations near Smith's redoubt, at Trent's House, and at two farm-houses at different points lower down on the Chickahominy, one of these being the Dudley House, to endeavor to communicate with the stations on the field, on the north side of the river. It was impossible to effect this ; and when our forces, after the battle, retired across the Chickahominy, the officers of both parties rejoined their camp near General Headquarters. Headquarters camp had moved, on the afternoon of this day, and was established this night at Savage Station. (Sub-reports, 26, 36.)

#### ENCAMPMENT AT SAVAGE STATION.

On the next day, (Saturday,) there was no general engagement. The greater portion of the signal party, wearied by the duties of

the two preceding days and nights, were kept in camp to rest, and to be at hand, if they were needed. A detachment of four officers, with their men, Lieutenant W. G. McCreary, A. S. O., commanding, was sent to report to General Hooker in front.

About noon, this day, it was known that the enemy, victorious at Gaines's Mill, had reached the line of the railroad to White House, and their cavalry was seen near Bottom's Bridge. Telegraphic communication with the depot at White House was broken. At very nearly the same time, Lieut. Hastings, A. S. O., who had started from White House on the morning of this day, with a wagonload of signal stores, and without escort, and who had crossed his wagon at the ford at Bottom's Bridge, (the bridge being destroyed,) in the presence of the enemy's cavalry, reported to the Chief Signal Officer, at General Headquarters' camp, his safe arrival, with his charge, on the south side of the Chickahominy. This was the last arrival of wagons from the depot on the Pamunkey. Lieutenant Hastings was ordered to join, with his train, the great trains, by this time moving on all main roads towards the new base upon the James river.

Early this morning the Chief Signal Officer had been notified that General Keyes' corps had crossed the White Oak Swamp, and was near Charles City Cross-Roads. He was instructed to send two signal officers, with their men to report to him. In obedience to this order, Lieutenant Charles Herzog, A. S. O., and Franklin Ellis, A. S. O., were ordered to join General Keyes. They were supplied with rockets ; and a code of rocket signals was arranged, by which, if rockets could be seen, communication could be had, from the position held by General Keyes to General Headquarters. They were further ordered that, having first obtained the permission of General Keyes, they would push on to the James river and put themselves in communication, if possible, with the naval forces there lying.

The dense woods of the White Oak Swamp, beyond which General Keyes' forces were, precluded the possibility of signalling by flags by day. An attempt was made to run out the telegraph wires to reach his headquarters. It was laid for a short distance. The thronging of the immense trains upon the road leading from Savage Station to White Oak Swamp, and the imperfect charac-

ter of the apparatus, rendered its further extension impossible ; and the effort was, after some hours, abandoned. The wire was ordered to be reeled up ; and the officers in charge of the train were instructed to move it, as soon as there was opportunity, toward James river. At sunset, officers were stationed to watch for the rockets, should any be thrown up by General Keyes's corps. During this day large forces of the enemy could be seen from near Dudley's house, moving on the north side of the Chickahominy, in the direction of the railroad, and on the roads leading to White House.

Our forces in front, and on the south side of the Chickahominy, occupied their usual lines. Large numbers of wounded, (from the fields of Mechanicsville and Gaines's Hill,) were gathered at the Savage House, and in the grounds surrounding it, at the railroad station.

The wagons of the signal party were kept packed, and the party was held in readiness to move. By evening it had become generally understood that the headquarters were to move that night ; and the order had been circulated that all were to be in preparation to march at the shortest notice. The tents were finally struck at about 2 a. m. (Sub-reports 11, 26, 22, 36.)

#### MOVEMENT FROM SAVAGE STATION.

It had been raining during the night ; and at daylight a thick fog was hiding the movements of both armies. Instructions were given before dawn, to Lieutenant Fisher, to report, at daylight, with a party of five officers and their flag-men, at General Smith's headquarters, still near Golding's farm ; and, afterwards to accompany any movement of the troops of that portion of the army, now our right, during the ensuing day. A station of observation was ordered to be established at Dudley's house. Four officers, with their men, were to report, as usual, at daylight, to General Hooker. The remainder of the party was to be in reserve, near Savage Station, and there to wait for their orders. All trains were to move at once for the depot on James river. Soon after daylight, it was evident that the general movement of the army, which had been taking place, drew near its completion. The rear

of the last trains, moving from the front, was in the open fields surrounding Savage Station.

Headquarters moved across White Oak Swamp.

About 7 a. m. the fog, which had shut out everything, lifted ; and, from the station at Dudley's house, long lines of the enemy's troops could be seen moving on the north side of the river, as if toward White House, and halted at the different roads leading from the bridges. The movement was evidently in force. A report of these facts was sent by courier to General McClellan. One hour later, the forces under General Franklin, moving back from our lines in front, by way of Trent's house, began to occupy positions at Dudley's house and near Savage Station. The signal officers serving with this portion of the army, stationing themselves on trees, and on house-tops, as the troops moved back, reported to General Franklin and his division commanders such movements of the enemy as they could see, until the enemy's pickets had crossed the river from the northern side ; and, until, in the afternoon, the last troops moved from Dudley's house, to go upon the battle-field at Savage Station, the officer upon Dudley's station leaving it with the rear guard. At noon, the troops under Generals Hooker and Heintzleman were occupying the second line of defences in front of Savage Station, and on both sides of the Williamsburgh road. There were occasional skirmishes and exchanges of cannon shots near this place, but the enemy had not shown themselves in force. The sounds of a slight engagement near Sumner's position, were audible for a time, but soon ceased. The troops were everywhere on the alert and in good spirits, and the retreat seemed making with precision. Squads of men were at this time destroying, at Savage Station, property it had been found necessary to leave behind.

Close to the Williamsburgh road, at Savage Station, a siege howitzer, a piece of the siege train, had become disabled by some breakage of its carriage. The officer in charge had piled wood under and on top of it ; and setting fire to the mass, which blazed up fiercely, was quietly waiting (some time after the gun had been rendered useless) for its entire destruction. A train of cars laden with ammunition and provisions, stood on the railroad track close to the station. This was being dismantled. A great pile of boxes

of hard-bread stood by the road, close to the hospital. This had to be left, it was said, for the sick and wounded.

The wagon trains had passed out of view from Savage Station. There remained only the troops designated to hold, for a time, this position.

The signal officers who had reported to General Hooker in the morning, though reconnoitering, had not been called upon for any active service. The reserve party had yet remained at Savage Station. (Sub-reports 2, 14, 22.)

#### THE BATTLE OF SAVAGE STATION.

Early in the afternoon, the troops of Generals Sumner and Franklin, falling back upon the positions they had held in the morning, began to form their line upon what was to be the battle-field. About 4, p. m., the laden train of cars standing upon the track was fired. Another train, attached to a locomotive, was started at speed, and without guidance, towards the broken railroad bridge crossing the Chickahominy. Soon after, a terrific explosion in that direction announced the destruction of large supplies of ammunition. Our lines were formed upon the east side of the open grounds at Savage Station, the left of the line extending into the woods upon the south side of the Williamsburgh road. As the line was forming, the signal officers, who had been held ready during the day, together with those coming in with the different bodies of troops, were assigned to stations.

Lieutenants Birney and Yates, A. S. O., were posted on the Williamsburgh road, as far towards the front as they could be visible, with instructions that one of the party should proceed yet further toward the enemy, supposed to be approaching in that direction, to reconnoiter; and returning, his reports should be sent by signals to the central station, placed near the point at which the Williamsburgh road leaves (going toward White Oak Swamp) at Savage Station.

Lieutenant Wiggins was placed at a point where the railroad track first enters the cleared ground from the direction of Richmond. Hence the railroad is a long way visible. Lieutenant

Wiggins was to report any advance of the enemy upon the railroad or from that direction.

Lieutenant Tompkins, A. S. O., was placed where the right of our line rested on the deep cut of the railroad east of Savage House. He was to report any force appearing on our right by the road from Trent's House or over the bridges of the Chickahominy.

At the central station were posted Lieuts. Neel, Marston, and Denicke, A. S. O. The arrangements were hardly completed when a message from the station on the Williamsburgh road, and a verbal report made by an officer from that station, announcing the enemy as not far distant and moving on the railroad slowly, and with artillery. This report was sent to General Sumner. Other reports soon indicated the presence of the enemy at other points in our front. The shells from their guns began to strike in the edge of the woods, near the signal officers there stationed. A final report from Lieut. Wiggins estimated the distance of the enemy from his station in yards. These reports were sent to General Sumner, who, in reply to the last, said he was coming upon the field in person. The officers were ordered in from the advanced stations. General Sumner came upon the field.

At the commencement of the action, which now opened, some shells were thrown from a howitzer on the enemy's right, near Williamsburgh road, directly among the tents crowded with the wounded surrounding Savage Station. A white flag, sent by the hospital, was met by the enemy, and thereafter the range of his guns was carefully altered. No other shells fell among the sufferers. A few moments later, the enemy showed themselves on the line of the railway, and opened upon the troops near the central signal station with a gun of the heaviest calibre. The piece is reported to have been either an 8-inch columbiad or a 64-pounder rifle, mounted upon a railway car and moved upon the railway. The range and service of the piece were splendid, and its fire was most annoying until silenced by a battery of Parrott guns near our center. The signal flag offered too perfect a mark to be used among troops in its presence, and the station here,

with the one established before the action on the right of our line, and now practically useless, ceased working.

Much of the battle of Savage Station was fought on open ground. Our lines advancing across the plain to close with the enemy, who held the edge of the woods on the west side of the cleared ground, from the railroad to beyond the Williamsburgh road. The musketry firing, as the lines closed with each other, was very severe. As our different lines moved up, it was thought at one time, it would be necessary to establish a signal station far to the front, and at a point much exposed to the enemy. Lieuts. Camp and Denecke, A. S. O., volunteered to work this station, and took their places with the line, ready to move up when it should be ordered.

By the time the line had advanced, the enemy had been driven back, and the station was unnecessary. It was dark when the conflict ended. It was fully 9 o'clock before the reports were received from the battle-field. The place of combat, on which they sought the dead and wounded with torches, the train of cars yet burning on the railway track, a hospital and large grounds crowded with the suffering of other battles, and long lines of troops lit up, now and then, with a lurid light, by the explosions of ammunition among the burning stores, were some of the incidents of the scene.

Some time after dark, the Chief Signal Officer was requested, by General Sumner, to carry to General McClellan, then on the other side of the White Oak Swamp, the message, that he had repulsed the enemy, after a severe action, and with severe loss on both sides ; that he was confident that he could repulse their whole force again in the morning ; and that he was most anxious to hold his then position, at Savage Station.

The message caused some excitement, upon its delivery at General Headquarters. The signal party, at Savage Station, bivouacked near the battle-field.

The troops under General Heintzleman moved from the works which they had been holding during the day, at about the same time that the line of battle was formed at Savage Station. These troops crossed the White Oak Swamp on roads higher up than those leading over the principal crossing. The signal officers ac-

accompanied the columns. There was no occasion for their active service.

General Headquarters' camp was established, this night, on the south side of White Oak Swamp. Our troops were all night moving over from Savage Station. The enemy, quieted by the sharp check they had received in their defeat of the afternoon, showed no signs of immediate pressing the pursuit. On this night, as on the days and nights before, the great trains were to be found, stretched out upon the road, or moving slowly to their destination.

The signal party, which had bivouacked near Savage Station, after the battle, crossed the swamp at about 4 a. m. They rested near the crossing.

The morning of June 30th, was clear and pleasant. On this day was to be made the last march necessary to place the troops in the new position on the James river. The troops, everywhere, were in motion—seemingly in good spirits. The trains moved steadily upon the roads, without confusion, halting at times to allow the cavalry and artillery to pass to the front, to take up their assigned positions.

The corps commanded by General Keyes was well in advance, and known to be near the river. General Headquarters were at a house upon the road, near where the camp had been about three miles from White Oak Swamp. Soon after they were established here, the signal detachment assigned to General Hooker, of General Heintzelman's corps, the preceding day, reported for duty. They were instructed to hasten forward with General Keyes's advance, and on his arrival near the James, to put that officer in communication with the gunboats.

Lieutenant Herzog also reported here, in person, the fact that Lieutenant Ellis and himself, had, in obedience to orders given on Saturday, at Savage Station, accompanied a small party of cavalry, sent forward by General Keyes; had reached James river on the night before; and had there boarded one of our war vessels; that he had again visited the James river, on the night of the 29th, whence he had now just returned. (Sub-report 46.) The position of the fleet had been ascertained. No enemy in force had been seen, going or returning. The report was read to

General McClellan. The officer was ordered to join General Keyes. Headquarters soon after moved upon the road to Harrison's Landing.

The signal detachment, which had bivouacked near White Oak crossing, was, with the exception of two officers, retained with himself by Lieutenant Fisher, this morning ordered forward by that officer, to report to the Chief Signal Officer, at General Headquarters. This party reported just in time to be present at the first engagement on Malvern Hill. Before noon, General Keyes, with the advance, had reached the James river, without encountering the enemy, and all the roads of communication were open. The corps commanded by General Fitz John Porter was at and on the roads near Malvern Hill.

The signal officers who had accompanied the fleet from James river, were in communication with those who had been sent forward with General Keyes, and a perfect understanding of their relative movements and positions had been thus given by the land and naval forces. Communication had been opened from a point just below Haxall's to the flag-ship Galena lying off City Point. The rear of the army was yet at White Oak Swamp. The change of base, to the James river, seemed to be a thing accomplished, and that without molestation. A very short time afterwards, the tumult of the cannonade, at White Oak Swamp, announced the enemy's attack in that direction.

The position of Malvern Hill, nearly two miles from the James river, and yet commanding a view of that stream, is, perhaps, as perfect as could be chosen for combining, by the use of signals, the operations and the fire of the land and naval forces. From the summit of the hill, the roads leading to Richmond by the river, and passing Turkey Bridge, are overlooked ; and even when the roads approaching pass through dense timber, the dust raised by moving columns, showing through the tree-tops, indicates to an observer, here placed, their position. A signal station was now ordered to be established on the roof of a small house at this point.

A station of observation was ordered to be placed on Haxall's house ; whence a long view is had of the river and the roads near it.

Two officers were placed on board the gunboat "Aroostook," which lay in sight of the station at Malvern Hill, and, also, of the Haxall station. There was one officer (Lieut. Clum, A. S. O.,) on board of the flag-ship "Galena," which had now moved up to near Haxall's from lower down the river. All this time, sounds of a general conflict in our rear were increasing. The battles of White Oak Swamp, New Market, and Glendale, had opened and were progressing. The Commanding General, who, leaving Haxall's, had ridden toward the front at the first sounds of the cannonade, returned and went on board the flag-ship, to confer with the Naval Commander. A signal message was sent to him from Malvern Hill, reporting the line of communication open. Orders were sent to the signal officers on board the gun-boats, to watch the station on Malvern Hill, in case they went into action. Soon after this, Lieutenant W. G. McCreary, 102d Pennsylvania Volunteers and A. S. O., stationed on a house at Haxall's, noticed about five miles up the river, and approaching, clouds of dust, which, as he thought, indicated the movement of a column of the enemy. The fact, mentioned by him to two officers of the General Staff, attracted no attention.

Watching this movement for some time, during which he was able to form an estimate of the strength of the supposed column, and the distance it had advanced, Lieutenant McCreary reported the fact to General McClellan, still on board the "Galena." An instant reply inquired how far the enemy were distant; and the answer was met by the announcement, that the gunboats would move up and shell them.

The Haxall station was ordered to immediately report, by signals, to the General any further facts of interest that might occur. The gunboats were got under way at once; and signals passed from one to another, to "Come on and shell the enemy." At this time, we had strong batteries on Malvern Hill, and a considerable force in that vicinity. The plain on top of the hill was crowded with wagons; and the stragglers from the remainder of the army, were being here gathered and formed together. There were preparations to meet an attack, but it was not expected immediately.

The enemy's column, moving down the river road, came rapidly through the woods to a point within close range, and opened

on the heights with field artillery. The long line of dust in the woods and beyond them, marked the positions of their infantry. The contest was rapid and decisive. With the first of the enemy's shells, the hill was cleared, as if by magic, of wagons and stragglers, which went down the hill together, and rapidly on to Haxall's, by hundreds. Our batteries on the hill came promptly into position and opened in reply, while the great guns of the fleet threw in their shells fairly among the enemy. Almost as soon as the gunboats had left Haxall's station, the signal station on Malvern Hill had come into view to the signal officers stationed on the mast-tops; and the signal messages from the field, "fire one mile to the right," "good shot," "fire low and into the woods near the shore," &c., were reported to the gunners in a few minutes after their broadsides were opened. The gunboats continued their fire for some time after the land batteries had ceased, and until the enemy's columns, repulsed and scattered, were out of range and hidden from view.

With the first lull of the firing, came inquiries, by signals, from General McClellan, as to the progress of the battle, still raging with other parts of the army. The reply, from General Porter, brought the Commanding General quickly on shore, and on the field, which he reached after night-fall. Messages went to and fro between the field and the gunboats until after dark, when the vessels moved down the river. At the beginning of this action, the signal flag, stationed and working, on a house on Malvern Hill, directly in front of the enemy's batteries, seemed to attract their attention, and several shots, some of them passing very close, were thrown at it. No injury was done, however, and the working was not suspended. The number of messages crowded on this station from all parts of the army, was too great to admit that all of them should be sent.

During the action, other stations were established, communicating from the position of General Porter, after he came upon the field, to where our advanced batteries, under General Griffin, stationed a mile distant, on the Quaker road, were firing on the enemy. Some messages were thence communicated to General Porter. These field stations were withdrawn at dark. A detail of officers and men was posted at the Malvern Hill stations, to be

on the alert throughout the night, in the case of an emergency ; and an officer was sent to one of the gunboats, by the order of General McClellan, to open communication thence, that night, if it was practicable. The vessels had moved so far down the river that the signals were not visible. The stations at Haxall's, communicating with the fleet near there, were retained. Mention has been made of the names of officers in my preliminary report, (Sub-report 1,) herewith, (Sub-reports 3, 2, 13, 24, 17, 24,) refer to this engagement. The Headquarters' camp was, this night, at Haxall's station. The next day was fought the principal battle of Malvern Hill. (Sub-reports 3, 9, 17, 21, 26, 27, 24.)

#### THE BATTLE OF MALVERN HILL.

The preparations for this battle commenced at daylight. The officers who had been placed on board the fleet the preceding day, had remained throughout the night. Other officers were now sent to the vessels, which it was expected would take part in the action. The stations on Malvern Hill and at Haxall's, remained as they had before been posted. Orders were sent to Lieutenant Fisher who, arriving from White Oak Swamp, reported for duty, this morning, to establish stations on the right and left of our lines, (which the whole army had formed in the night,) near Malvern Hill, and as far in front as was practicable. The central station was to be near the station communicating with the navy, which was also near the position occupied by General Porter on the crest of Malvern Hill. In obedience to this order Lieutenant Camp, A. S. O., was posted on the house at General Heintzleman's headquarters, communicating with Lieutenant McCreary, A. S. O., stationed near General Porter. Lieutenants Gloskoski and Ellis, A. S. O., near the headquarters of General Couch, on the left, communicating with Lieutenant Wiggins, A. S. O., at the central station. Lieutenants Birney and Yates, A. S. O., on the station to communicate with the fleet. The station at Haxall's was occupied by Lieutenant Kendall, A. S. O. All these lines were working fairly before the enemy had made any attack in force. The naval forces held the same position as on yesterday, and awaited the word of the General Commanding on the

field, how and where to throw their fire. Signal officers were in the tops of each, by whom the signal messages were read or sent. About noon the enemy advanced on our left ; our batteries opened on the land, and a signalled order brought to their assistance the fire of the fleet, the shells of the great guns passed high over portions of our army, and plunging into the woods, through which the enemy were moving. The conflict, at this point terminated, after a severe struggle, with the repulse of the enemy. One of the first messages sent from the signal station on the left, was a call for more men. At that time our lines seemed hard pressed. A message from this station announced to General McClellan upon his arrival on the field about 2 p. m., the repulse of the enemy then just effected by General Couch's division. During this contest, this signal station was found to be under so severe a fire, that it was necessary to order it to be moved to where it could be better covered from view. It was then posted behind a fringe of trees, and there worked, under fire, throughout the day. In the lull of the engagement, after the first attack, and when the firing recommenced, (in the afternoon,) it was engaged with frequent messages relating to our own troops, and to the enemy. Reports of various character and importance passed over this line until night, when with the final repulse of the opposing army, the officers were put upon night stations, where our lines of battle had been, and there remained working until the order came, late at night, to evacuate the position.

The forces on the right were not extensively engaged this day, and few communications passed over the line extended to General Heintzelman. The communication with the naval vessels through all this day was complete. The fire of their guns was controlled by the General on the field as readily as was that of his own batteries.

The message to open fire, cease firing, to fire rapidly, to fire slowly, to fire to the right or left, to alter the elevation of the guns, the ranges, the length of the fuses, etc., passed continuously. At one time the order went to fire only single guns, and to wait after each the signal report of the shot. About 6 p. m., while the last attack was raging, it was signalled, "fire rapidly, this is the crisis of the day!"

The fire of the navy covered the left of our army. It was turned upon an enemy more than two miles from the ships, in the woods, and invisible from the vessels, with precision. It was not the fault of naval officers or men that one or two of the shells struck in our own ranks. The guns had been trained, in obedience to signal messages, closer and closer to our lines, until the variation usual in such long flights of the shell caused the accident.

It must be borne in mind that, from early in the day till dark, they threw an almost continuous fire, and, sometimes, by broadsides, along the flank of our army, and over a part of it, up to its front. The letter of Commodore Rogers, herewith, (paper J,) and the reports of Lieutenants Fisher, McCreary, Marston, Yates, Birney, Gloskoski, A. S. O., (Sub-reports, 13, 24, 3, 40, 27, 7, 26,) have reference to this battle. The attention of the General Commanding the army was called to the names of some of the officers present, in my report of July 22, 1862.

The battle of Malvern Hill closed after dark, with a terrific cannonade, and the absolute repulse of the enemy. The plain was held by our troops, and the foe, beaten everywhere, were flying. The signal officers were ordered to bivouac at their station, to be ready to join the expected movement of the troops at daylight.

#### MOVEMENT FROM MALVERN HILL.

About an hour later, the Chief Signal Officer, then at the deserted camping ground at Haxall's, whence headquarters had that evening moved to Harrison's Landing, was informed that the whole army would move that night for Harrison's Landing ; and he was ordered to arrange such communication that General McClellan, who would remain on board the "Galena," off Haxall's, might be in communication with General Keyes, whose camp was the rear guard, and be also informed of the manner in which the march was made, and of any occurrences in relation to it.

An order was sent to the signal party upon the battle-field,

notifying the officers of the order, and directing them to accompany the movement of the troops.

Lieutenant Kendall, A. S. O., established a station on the bank of the river, and through the night reported, from time to time, to General McClellan, through Lieutenant Clum, A. S. O., upon the flagship, the names of the different corps and divisions, and the times, as they passed on the road on their march down the river.

A message was also sent at dawn, reporting the condition of the troops, and the character and condition of the march : the General Commanding the army communicated with General Keyes in reference to it.

Soon after daylight, the movement was so far completed that the last troops and trains were passing. The corps of General Keyes was in position to cover the roads on which our forces were moving. It was raining heavily. A message was received from General McClellan a little later, about 9 a. m., announcing his departure to superintend the landing of fresh troops at Harrison's Landing ; and the flagship moved down the river.

The signal station held up to this time by Lieutenant Kendall was now abandoned.

At about this hour, the last wagons of the trains were entering the clearing at Haxall's. The rear guard of the army was crossing the bridge over Turkey creek, already swollen by the torrents of rain which had fallen. The timbers of the bridge had been partially cut, and trees on the sides of the road were weakened to obstruct it as soon as the rear guard had passed.

The trains, though retarded by swelling streams and the mud, were moving in good order upon the road ; and General Keyes, whose corps covered the rear, had every confidence that the movement would be completed with success.

In this movement from Haxall's to Harrison's Landing the roads were at one time so encumbered that trains were not permitted to move upon them. It was thought some of the wagons would be lost. In these circumstances the instruments taken from the field-telegraph were sent forward upon horse-back. The reels of wire were to follow as occasion offered. Of these, one

of these reached Harrison's Landing in safety. The other, broken upon the road, was destroyed by the officer in charge.

The last detachment of two signal officers and their men, who had been kept back to enable the rear to be covered by the naval guns, if necessary, now rejoined General Headquarters, established at Harrison's Landing, six miles below Haxall's. A report of the state of the march was made to the General Commanding.

The road from Haxall's to Harrison's Landing is at many points, if not throughout its whole course, within the range of cannon shot from the river. It was recommended that, should the enemy attempt to follow our trains in force, two signal officers be placed upon a gunboat, to be sent up the river to attack them. Of these officers, one landing and taking a position whence the enemy could be seen, could direct upon them the guns of the vessel, although the troops upon whom the fire was turned might be visible to the gunners. The flagship of the fleet now lay off Harrison's Landing. Communication was opened between that vessel and General Headquarters. Officers were stationed to make it permanent.

The roof of the Harrison mansion offered the most elevated position on which to establish a station of observation. A detail of men was set to place thereon a temporary staging, and to clear away the tree-tops, which interfered with the view.

It was now late in the afternoon of what had been a dark, rainy, and uncomfortable day. The rear of our trains had arrived within two miles of their destination. A force of the enemy following and getting in range, opened upon them with two pieces of artillery.

The teamsters were becoming anxious and alarmed—the roads were full ; and there was danger of a confusion which might cost us the loss of a large number of wagons, with their stores. A message was sent, by order of General McClellan, to the Flag-officer of the fleet, to notify him that the enemy were annoying the rear of the trains, and to ask that a vessel move up to repel them. The distance and position were given.

The "Maratanza" was signalled, from the flag-ship, of the duty

required, and steamed off immediately. The second shot from her 11-inch gun fell close to the enemy's battery. It was hastily withdrawn. The staging on the mansion was so far completed, on this night, as to be fit for use. The detachments of the signal party, with the exception of those officers and men on the gunboats, had rejoined, and the party was, this night, encamped near General Headquarters.

The morning of the 3d of July was dark and cloudy. The camping ground at Harrison's Landing is surrounded by creeks and swamps, and the heavy rains, with the tramplings of thousands, had converted the ploughed fields into morasses of mud. It was difficult to move between camps on foot; or from one part of the army to another. Everything was wet, cold, and uncomfortable. The greater mass of the army lay in the open grounds which surround Harrison's mansion. Some of them were weary with the ceaseless marchings and fightings of the past week, and were confused and depressed by movements which they did not understand. There was that unsettled condition of affairs which must always attend the movements of so great an army, made under the circumstances in which ours had moved from the Chickahominy, and marched and fought its way to the James.

About 8 o'clock, the report of a gun, and a shell whistling into camp, indicated the presence of the enemy, and excited attention everywhere. From the station on top of the mansion, the smoke of the gun could be seen rising above the trees, in the direction of and beyond Westover church. Other shots followed, the shells, falling nearer, and the enemy seemed to be advancing slowly. Some time elapsed. The fire continued: forces, supposed to be the enemy, could be seen showing themselves in the open ground near the church. Our men began to grow restless.

Exaggerated rumors came in from the front that the enemy, in three strong columns, were advancing upon our position. The Commanding General had gone on board of one of the transports and had not yet returned. The flag-officer commanding the fleet signalled to know what was the matter, and whether the Navy could render any assistance. A reply was sent at first that it was the enemy, and that the Commanding General was on board the "Ariel." And then a message that if a gunboat was

sent a mile down the river, the smoke of the enemy's guns could be seen from her decks.

At this time the Commanding General reached the flag-ship with the "Ariel;" was informed of the facts, and came at once on shore. Having signalled from the vessel the fact of his coming, and a reply to a question about preparations. The whole army was under arms to meet the enemy, the men moving out cheerfully for the anticipated battle. Two signal officers had been sent to the front with instructions to proceed as far as possible to reconnoiter, and to report to the station on the mansion.

The Chief Signal Officer was now ordered to see that communication was kept with the vessels of the fleet, and to establish a station connecting this communication with a point near the position which the Commanding General took on the field. A few moments later the guns of the war vessels down the river were heard as the fire opened upon the woods where the enemy had been seen, and presently a couple of rounds from a field piece in front silenced the enemy's guns. A signal message, sent from the front to the Mansion station, asked that the gunboat down the river might cease until our forces could reconnoiter the positions lately held by the enemy. This message was sent to the flag-ship. It could not be signalled from the shore or the flag-ship instantly to the vessel engaged, and her fire was kept on the woods.

A squadron of our cavalry, sent on the reconnoissance, came in sight of her officers, and the guns were at once trained upon them as enemies. Fortunately, one of the signal officers, detailed for the station at the front, had accompanied the reconnoissance. His signals were recognized on the vessel. Communication was opened, and the gunboat fire ceased. The reconnoissance showed no enemy in our front in force. A dispatch reporting the result was signalled from the officer who had accompanied the reconnoitering party to the General Commanding. An hour or two later the camp had resumed its quiet.

On this day, the detachment of four officers, with their men, who had been at White House during the evacuation of that place, reported for duty.

On the night of the 4th of July, the Commanding General had

received information which induced the belief that an attack would be made upon our position by the whole force of the rebels on the following day. The Chief Signal Officer was instructed to so arrange communication that the gunboats, stationed to cover the right and left flanks of the army at points respectively about two miles above and two miles below the Mansion station, should be in communication with that station ; that from this station communication should also be had to the flag-ship and as far towards the front as was practicable. Stations were also to be arranged on each flank of the army on shore, communicating thence to the flanking gunboats. Lieut. Fisher was instructed to arrange the shore stations. Lieut. Stryker was sent to post the officers on the fleet.

On the morning of the 5th, all the preparations had been made.

The enemy, however, did not advance the attack. There was no engagement.

These stations were afterwards adopted as permanent stations, and were held thereafter for the forty-one days our army lay at Harrison's Landing. The accompanying map and report (papers N, H) will illustrate the positions.

A week later, the positions at Harrison's Landing had become so strong that anticipations of an attack by the enemy had ceased. The army awaited reinforcements to resume the offensive. The officers of the signal corps, wearied and exhausted by three months of constant movement and labor, (many of them sick from diseases incident to the climate and brought on by exposure,) were, with the exception of those on the permanent stations, gathered into one camp that they might be rested.

The party was re-equipped and re-organized ; its members had profited by the experience they had gained in the field, and after a few days of repose were ready again for service.

At midnight, on the 30th of July, the enemy, who had crept down after dark with two batteries, opened fire from the right bank of the James river at two points ; one opposite the Mansion station, the other opposite Westover, upon the encampment of our army and the transports in the river. A report of the position of their batteries was made by the officers on the Mansion

station, and was sent to the General Commanding just at the close of the bombardment.

During this cannonade the officers on the stations on our right flank were on the alert. The gunboat "Maratanza," lying on our right, engaged the battery at Westover, and drew its fire. The foretop in which Lieutenant Paul Babeock, Jr., 7th New Jersey vols., and acting signal officer, had posted himself, was struck by a cannon shot while that officer was calling the flank station on shore with his lights.

The stores-camp of the signal party was for a time endangered, this night, by the shells which fell in it. A corporal of the party was killed, and one man wounded.

On the following day, our forces occupied both banks of the James river. As soon as they had permanently established themselves on the right bank, signal stations were posted, which placed them in communication with the signal lines before mentioned ; and, at the same time, enabled the fire of the fleet to be called at any moment, and to be directed to cover them. On the 5th of August, in the temporary absence of the Chief Signal Officer, Lieutenant Fisher was in command of the signal party of the Army of the Potomac. On this day, General Hooker, with two divisions, moved to reoccupy Malvern Hill. In the brief combat that followed, Lieutenant Camp, A. S. O., posted on the field, at the Mellert House; and over two miles inland, directed the fire of the steamer "Port Royal," on the position of the enemy at Malvern, and by his messages notified its commander of the progress of the action. He also first reported the retreat of the enemy.

On the following day, a line of stations connected General Hooker's headquarters on Malvern Hill with General Headquarters at Harrison's Landing, eight miles distant.

Reinforcements were sent for by this line, and over it were passed the messages which directed some of the movements, and finally the withdrawal of the expedition. The reports of Lieutenants Fisher and Camp (Sub-reports, 24), herewith, have reference to this operation.

From the date of this expedition, until the 15th of August, (the time of the evacuation of Harrison's Landing,) there were no

operations of magnitude. There was the usual routine of messages between the permanent stations, and across the river.

On the day of the evacuation of Harrison's Landing, the station on the Harrison Mansion was one of the last points abandoned; and a party of two signal officers, with their men, served with the rear cavalry of the rear guard, under General Pleasonton, as the columns moved down the Peninsula.

When the troops were gathered near Fortress Monroe, stations were posted at Newport News, and on that fortress, and these were worked until the army embarked for Alexandria, to take part in the campaigns then making in northern Virginia.

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The maps herewith exhibit, as nearly as is practicable, the location of the signal stations established during the campaign of which it has been possible to obtain record. The sub-reports of the acting signal officers are also submitted for the information to be gained from them.

This main report has been drawn in the form of a narrative, in order that the General Commanding may have laid before him the circumstances under which the duties of the corps were attempted, and the labor which attended them. This has been necessary in a first report of this character.

The Signal Corps of the Army of the Potomac was not, during the Peninsula campaign, so circumstanced as to be most effective. There was reason to regret, in almost every battle and position, the want of the field-telegraph trains so essential to the greatest usefulness of organizations of this kind. Appropriations for the other proper stores were first made by Congress at the end of February. The sums were not subject to the draft of the signal officer until May. The army was new. The duties of the corps were novel, and were understood by but few Generals in the service. The acting signal officers were all volunteers, without any experience in military usage. They had been hastily instructed and equipped, and were thrown upon their first campaign in a country very difficult for their duties, and into battles

and operations of unusual magnitude. There were few at first who aided them, even when it was in their power. It was often difficult to obtain official information of contemplated movements. It was due to the good material selected from the State regiments for the corps, that, so situated, the officers and men achieved on the Peninsula the success they did, and toiled willingly through unusual labor with a zeal and effect which attracted the attention of the General Commanding the army.

(Signed)            ALBERT J. MYER,  
*Major and Signal Officer, U. S. A.*

To Colonel R. B. MARCY,  
*Chief of Staff.*











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